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THE SLOTH.



[Sloths.

The common name of the animal represented in our wood-cut is as little descriptive of its character as many of the statements and opinions regarding its functions and condition are exaggerated or untrue. The name and the statements arose from the supposition of an analogy between it and other quadrupeds, which does not in fact exist; and from observations made upon its habits under circumstances totally opposed to the manifestation of the peculiar qualities which necessarily result from the peculiarities of its formation. Into the anatomical details of that formation we cannot here minutely enter. They may be found at length under the word 'Ai' in the 'Penny Cyclopædia.

The sloth, in its wild condition, spends its whole life on the trees, and never leaves them but through force or accident; and what is more extraordinary, it lives not *upon* the branches, like the squirrel and the monkey, but *under* them. Suspended from the branches it moves, and rests, and sleeps. So much of its anatomical structure as illustrates this peculiarity it is necessary to state. The arm and fore-arm of the sloth, taken together, are nearly twice the length of the hind-legs; and they are, both by their form and the manner in which they are joined to the body, quite incapacitated from acting in a perpendicular direction, or in supporting it upon the earth, as the bodies of other quadrupeds are supported by their legs. Hence, if the animal be placed on the floor, its belly touches the ground. The wrist and ankle are joined to the fore-arm and leg in an oblique direction; so that the palm, or sole, instead of being directed downwards, towards the surface of the ground, as in other animals, is turned inward towards the body in such a manner that it is impossible for the sloth to place the sole of its foot flat down upon a level surface. It is compelled, under such circumstances, to rest upon the external edge of the foot.

The form and articulation of the posterior extremities is almost equally remarkable with the anterior. The formation of the pelvis alone is of such a nature as to render it impossible for sloths to walk after the manner of ordinary quadrupeds; and the mode in which the limbs are joined to the pelvis seems as if expressly arranged for the purpose of altogether depriving the animal of the ordinary use of its legs. The effect of this conformation is, that the sloth must remain quite stationary when placed on a polished surface; but as the open ground is generally rough, with small protuberances, such as stones, roots of grass, &c., he extends his arms in all directions in search of something to lay hold of; and when he has succeeded, he pulls himself forward, and is thus enabled to trail himself along, but in the exceedingly awkward and tardy manner which has procured him the name of the "sloth." Mr. Waterton informs us that he kept a sloth in his room for several months, and often took him out of the house in order to have an opportunity of observing his motions. If the ground were rough, he would pull himself forward, in the manner just described, at a pretty good pace; and he invariably directed his course towards the nearest tree. But if he was placed upon a smooth and well-trodden part of the road, he appeared to be in much distress. Within doors, the favourite station of this sloth was on the back of a chair; and, after getting all his legs in a line on the topmost part of it, he would hang there for hours together, and often with a low and plaintive cry would seem to invite the notice of his master.

It should be observed that the sloth does not suspend himself head downward like the vampire,—but, when asleep, he supports himself from a branch parallel to the earth. He first seizes the branch with one arm, and then with the other; after which he brings up both his legs, one by one, to the same branch; so that all the four limbs are in a line. He rests in perfect security in this position, to which his whole structure is adapted. In this attitude the sloth has the power of using the fore paw as a hand in conveying food to his mouth, which he does with great address, retaining meantime a firm hold of the branch with the other three paws. In all his operations the enormous claws with which the sloth is provided are of indispensable service. They are so sharp and crooked that they readily seize upon the smallest inequalities in the bark of the trees and branches among which the animal habitually resides, and, united to the great muscular strength and rigid formation of the extremities, furnish very powerful weapons of defence.

All our readers are aware of the story that the sloth entirely confines himself to one tree, until he has completely stripped it of its leaves. But as, in the remote tropical forests which the animal inhabits, the trees touch each other in the greatest profusion, there is manifestly no reason why it should do this, since even the indolence with which it is so unjustly reproached would, in many cases, be more indulged by removing rather to an adjoining tree than to another part of that in which it actually is. Mr. Waterton says,—"During the many years I have ranged the forests, I have never seen a tree in such a state of nudity; indeed, I would hazard a conjecture, that, by the time the animal had finished the last of the old leaves, there would be a new crop on the part of the tree he had stripped first, ready for him to begin again, so quick is the process of vegetation in these countries." The same entertaining writer thus describes the travels of the sloth. "There is a saying among the Indians, that when the wind blows the sloth begins to travel. In calm weather he remains tranquil, probably not liking to cling to the brittle extremity of the branches, lest they should break with him in passing from one tree to another; but as soon as the wind rises, the branches of the neighbouring trees become interwoven, and then the sloth seizes hold of them and pursues his journey in safety. There is seldom an entire day of calm in these forests. The trade wind generally sets in about ten o'clock in the morning. The sloth then travels at a good round pace; and were you to see him pass from tree to tree, as I have done, you would never think of calling him a sloth." In fact, the animal is distinguished among the Europeans settled in America by the name of Ai, from a plaintive feeble cry, resembling that word, which it emits while in motion.

The sloth brings forth and suckles its young like ordinary quadrupeds. The young sloth, from the moment of its birth, clings to the body of its parent until it gains sufficient size and strength to shift for itself. Only a single young one is produced at a birth. Sloths are exceedingly tenacious of life. They have been seen to move their legs, and exhibit other symptoms of vivacity, a full half hour after having been deprived of the heart and other viscera. Waterton states that he saw the heart of one beat for half an hour after it was taken out of the body; and adds, that the wourali poison seems to be the only thing that will kill it quickly. An arrow dipped in it will kill a sloth in about ten minutes. It is a scarce and solitary animal, found only in the most gloomy and retired tropical forests of South America. Its flesh is much relished by the Indians, who are therefore in continual pursuit of it.

The common sloth has a short round head, furnished with coarse shaggy hair, disposed on the crown in verging rays, like that of the human species. The face is of a yellowish colour, covered with very short hair, whilst that of the body and extremities is universally long and shaggy. The eyes are encircled by a brown ring. The hair of the body is varied with irregular patches of dark and light brown or silvery white. Between the shoulders there is an oval patch of short

orange-coloured hair, of a finer quality than that which is found on other parts of the body, and divided in the centre by a longitudinal black stripe: the throat and breast are frequently of a light straw colour. The texture of the hair is very peculiar, and has a nearer resemblance to dry hay, or grass shrivelled and withered by the sun, than to the hair of ordinary quadrupeds. It is coarse and flattened at the extremity, but near the root it is as small as the finest spider's web; and its dry and withered appearance forms the animal's principal security against its pursuers, as it renders it exceedingly difficult to be detected while at rest among the branches, covered with bark and moss of the same colour. It is only when in motion that it can be readily distinguished from the branch beneath which it hangs suspended. In other respects, different individuals of the species differ considerably from one another in the shades and disposition of their colours, and in the intensity of the mark between the shoulders; some are even altogether destitute of this last mark, others are of a uniform ash-colour over the whole body, and there are others still which have the hair of the head parted in the centre and hanging down upon each side. It is not, however, exactly determined whether these constitute distinct species, or are merely varieties of the common sloth. The known species have nothing more than the rudiment of a tail. Their dental system is exceedingly simple: they have no incisor teeth, but canines and molars only; the former diminutive, and very similar to the latter. The molar teeth are eight in the upper jaw and six in the lower;—four and three on either side respectively. It is very remarkable also that sloths, although their necks are so short, have nine vertebræ, whereas most other quadrupeds, even those with the longest necks, have but seven. Thus it will be seen that, altogether, there is scarcely a member of the animal kingdom more remarkably constituted, or more deserving of being carefully studied.

WEDDING "BIDDINGS" IN WALES.

Some correspondents have favoured us with printed copies of the papers used as invitations to weddings among the lower classes in Wales, in some parts of which it is customary for the persons invited to make donations of money or of such articles as may be useful to the newly-married pair, expecting similar assistance when a wedding takes place in their own family. This primitive custom is curious and interesting, and doubtless tends to the promotion of a neighbourly and social feeling among the people where it prevails; we are not, however, prepared to admit the actual utility of a practice which must often have the effect of facilitating the marriage of young people before they are in a condition to provide for the wants of their household. We subjoin copies of the different forms of invitation which have been sent to us:—

"May 7th, 1830.

"As we, Benjamin Jones and Mary Coslett, intend to enter the matrimonial state on Friday, the 28th instant, the young woman intends to make a Bidding on the occasion at her father's house, called Lliw-forge, in the parish of Llandilo-tal-y-bont, in the county of Glamorgan, where your agreeable company is humbly solicited; and whatever donation you may be pleased to bestow on her then will be thankfully received, and cheerfully repaid by her father and mother whenever called for on a similar occasion."

At some distance below, in smaller print, is added:—"N.B. The young woman, and her father and mother, Thomas and Esther Coslett, and her brother, Thomas Coslett, desire that all gifts of the above nature due to them be returned to the young woman on the above day, and will be thankful for all favours granted."

The form, second in date, only differs from the preceding in going rather in the name of the young man and his parents than in that of the young woman. The third we give entire, with the exception of the postscript, which is similar to the above, except that it is equally addressed to the friends of both parties; and adds a request that all the debts of this nature due to a deceased uncle of the young man may be paid on this occasion.

"Caermarthenshire, February 1, 1834.

"DEAR FRIEND,—We take this convenience to inform you that we confederate to such a design as to enter under the sanction of matrimony on the 19th of February inst. And as we feel our hearts inclining to regard the ancient custom of our ancestors, *sef Hiliogaeth Gomer*, we intend to make a wedding-feast the same day, at the respective habitation of our parent; we hereby most humbly invite your pleasing and most comfortable fellowship at either of which places; and whatever kindness your charitable hearts should then grant will be accepted with congratulation and most lovely acknowledgment, carefully recorded and returned, with preparedness and joy, whenever a similar occasion overtakes you, by your affectionate servants,

DAVID JOSHUA,
MARY WILLIAMS."

The customary form is that which is first given: the last seems a rather ambitious departure from the established precedent.

Anecdote of a Shepherd's Dog.—We often read of the sagacity of the shepherd's dog, but the scene of its manifestations is usually placed far away in the highlands of Scotland or Wales. Yet a person who notices the proceedings of the dogs employed to assist the drovers in conveying a flock to London, or through its streets, might collect a large number of curious facts in illustration of its character. A correspondent informs us that, a short time since, a flock of about 200 sheep was advancing towards town by one of the northern roads. As it passed through the village of Tottenham, about a dozen of the same species were seen approaching in the opposite direction; and the drivers of this small detachment became, as usual in such cases, anxious lest any of their diminutive number should desert to the stronger party; to prevent which they gathered their few sheep to one side of the road, and surrounded them, as it were, with a wall of men, until the larger flock should have passed. One of them, however, baffled all attempts to prevent his escape, and, forcing his way between the legs of the men who surrounded him, sprang into the midst of the other flock, in which he appeared, to the unpractised eye, completely lost. A vigorous pursuit immediately commenced, and the drivers, running to and fro, made every effort to recover the fugitive, until they were obliged, from mere exhaustion, to give over the endeavour. The head driver of the larger flock, who had looked on apparently enjoying the transaction, then gave the word to his dog, who dashed forward and brought the affair to a very speedy conclusion. He singled out the runaway without the least hesitation, and seizing him by the loose skin of the neck, bore him to the ground, and held him fast until the drivers came up and fully secured him. The larger flock now passed on, and a bystander expressing his pleasure at the sagacity of the dog, the driver put the animal into vigorous employment; and he was seen now urging on the main body,—now restraining stragglers,—now at his master's feet,—and now, again, circling the flock, and barking with all his might. After this display had continued for some time it was interrupted by an outcry from behind, and the stray sheep was seen renewing his attempt at an escape. In this he again succeeded, although his pursuers were now aided by a number of bystanders; and the poor animal, no doubt thinking the coast clear, came bounding onward in eager haste. As before, however, his triumph was but of short duration. The dog, having again waited for the signal, encountered him in his career, and mastering him as before, delivered him a second and last time to his rightful owners!

Necessary Caution in Conversation.—If we did but reflect, it would be easy to observe that the too great desire of out-shining and dazzling others renders conversation disagreeable. We are willing at any rate to give a great idea of our merit; this desire puts us upon a flow of talk, without giving others the leisure or opportunity to exert their small talents, and so they depart soured and provoked against those that have thus kept them in amusement.—*Palmer's Aphorisms.*

DIANA.



[Statue of the Goddess Diana.]

Diana, the daughter of Jupiter and Latona, received a worship among the Greeks nearly as extensive as that of her twin-brother, Apollo. She was the goddess of the woods and of the chace on earth, and also known as Luna in heaven and Hecate in hell. She was most recognized in the former character, in which she is frequently represented in ancient statues,—as running with her ve[illegible]t shortened and girt around her, and yet flying back with the wind. She generally appears as tall of stature; and, in correspondence with the tastes assigned her, her countenance exhibits a somewhat manly expression combined with its feminine characteristics. Her legs are always bare, well-shaped and strong; and her feet are sometimes naked, but oftener adorned with some sort of buskin or sandal. She generally has a quiver on her shoulder, and sometimes a

javelin, but more frequently a bow in her hand; and a dog is usually by her side or at he feet. The statues of Diana were, in ancient times, frequently placed in the woods, representing her as hunting, bathing, or reposing after fatigue. When, under other circumstances, Diana was represented as the intelligence that presides over the moon, she usually appeared in a car drawn by deer, but more commonly by white horses, with a lunar crown, or crescent, on her forehead.

"Diana," says Winckelmann, "has the figure and air of a virgin more than any of the other superior goddesses. Gifted with all the attractions of her sex, she seems not to be aware of her beauty; yet her looks are not cast down like those of Pallas; her bright and cheerful eyes are directed toward the object of her delight—the chase. Her hair is gathered on all sides of her head, and forms behind, on her neck, a knot in the style used by virgins. Her shape is more light and slender than that of either Juno or Pallas. She has generally but a slight garment, which merely descends to her knees; and is the only goddess sometimes seen with the bosom uncovered."

This celebrated antiquary's description of Diana very nearly corresponds with the statue represented in our wood-cut. She is dressed in a short, plaited, and sleeveless tunic, which is confined by a sort of mantle passed over her left shoulder, and folded round her waist. The left hand is employed in holding back a fawn, while the right is raised to take an arrow from the quiver which is upon her shoulder. The legs are naked, but her feet are furnished with rich sandals. She seems in the act of protecting the hind which she holds with her left hand, while her looks are turned in apparent severity and anger in a direction opposite to that in which the animal is going. This hind is concluded to be the fabulous one of Mount Coryneum, with its brazen feet and antlers of gold, which was consecrated to Diana by the nymph Taygete, the daughter of Atlas. Hercules, when in subjection to Eurystheus, received orders to bring this animal alive to Mycenæ. This was the fourth of his famous labours. He pursued the hind through many countries, and at last overtook it in Arcadia, at the passage of the river Ladon. But his labour was in vain, for Diana descended from Mount Artemisius, and rescued the consecrated prey, menacing the demi-god himself with her weapons. This is very probably the incident which the sculptor intended to represent in this admirable statue, which is not unworthy of a comparison with the more famous Apollo Belvedere, a wood-cut of which has been given in No. 45 of the 'Penny Magazine.' It is certainly the finest of the statues of Diana which have come down to us from ancient times. It is of Parian marble, and remains in a very good state of preservation. The height of the statue is six feet, six inches, and two-thirds. It has been in France since the reign of Henry IV.; but when and how it was brought is not known. It was engraved by Cl. Mellan in 1669; by Baquoy in the 'Musée Français,' and by Heine in the small edition published by Filhol. Our wood-cut is copied from the engraving of Baquoy.

We cannot better conclude this article than by the following fine hymn to Diana, from Ben Jonson's 'Cynthia's Revels.'

Queen and Huntress, chaste and fair,
  Now the sun is laid to sleep,
Seated in thy silver chair,
  State in wonted manner keep:
    Hesperus entreats thy light,
    Goddess excellently bright.

Earth, let not thy envious shade
  Dare itself to interpose;
Cynthia's shining orb was made
  Heav'n to clear, when day did close.
    Bless us then with wished sight,
    Goddess excellently bright.

Lay thy bow of pearl apart,
  And thy crystal shining quiver;
Give unto the flying hart
  Space to breathe, how short soever:
    Thou that mak'st a day of night,
    Goddess excellently bright.

MINERAL KINGDOM.—Section XXVII.

COPPER,—(*continued.*)

Smelting of the Ore.—The ores are only brought by the miner into the state which makes them fit for the first process they undergo in extracting the pure metal from them—the state in which they are sold to the smelter. The ore, when brought to the surface, is separated into different heaps according to its richness, and then the lumps of pure ore are broken into fragments, about the size of a hazel-nut, and that which is mixed with other substances is broken still smaller and thrown into sieves, which are shaken under the surface of water, whereby the lighter impurities are washed away and the heavier ore remains. This operation of preparing the ore for the furnace is however modified in many different ways, according to the nature of the ore.

The ore so prepared is sold to the copper companies, by whom it is smelted. Nearly all the copper ores in the United Kingdom are purchased at present by ten private mercantile establishments. A list is published annually at Redruth, in Cornwall, of the produce of the mines, and of the amount purchased by each of these companies; and in the year ending the 30th of June last, their purchases amounted to 1,031,722*l.* The magnitude of some of these concerns is considerable for we find four of the purchasers standing thus:—

Williams, Foster, and Co.	£154,191
Vivian and Sons	153,338
Pascoe Grenfell and Sons	152,049
Daniell, Nevill, and Co.	131,433

The ores are conveyed from Cornwall to Wales to be smelted, on account of the abundant supply and cheapness of coal there; and thus, not only is the least bulky material carried to the more bulky, but the vessels which take the ore come back loaded with coal for the steam-engines of the mines. The principal smelting works are situated on the coast of Glamorganshire, from Swansea to Neath, and chiefly near these towns.

The component parts of the copper ores, when brought to the smelting works, are copper, iron, and sulphur, and from sixty to seventy per cent. of earthy matter; besides these, there are often admixtures of tin and arsenic. The average produce in pure copper may be stated at about eight per cent. The processes in a copper smelting work are simple, consisting of alternate calcinations and fusions. Two kinds of furnaces are used, of different constructions, the one for calcining, the other for melting. The various qualities of ore received from the mines are mixed and smelted together, for it is found that ore of one quality acts as a flux for that of another quality. The processes are conducted in the following order:—

1. The ores are calcined.
2. The calcined ore is melted.
3. The metallic mixture from process 2 is calcined.
4. The calcined coarse metal from process 3 melted.
5. The purer metal from process 4 calcined.
6. The metal calcined in process 5 melted.
7. The copper from process 6 roasted.
8. Coarse or blistered copper refined.

In the calcining processes the volatile matter, viz., the sulphur, is expelled, and the iron is oxidized, the general fusibility of the mass being thereby increased. In the melting processes the metallic oxides and earthy matters being specifically lighter, float on the surface, and are skimmed off as slags.

The charge of the calcining furnace, in process 1, is from three to three and a half tons of ore, and the calcining lasts twelve hours, the mass being frequently stirred to expose fresh surfaces. In the 2nd process the melted matter is let out at a hole opened in the side of the furnace into an adjoining pit filled with water, when it becomes granulated, that is, cools in the form of coarse grains, which are collected in a pan at the bottom of the cistern. In this state it contains about one-third part of copper, the rest being iron and sulphur. The granulated metal is subjected to calcinations and fusions, alternately, as above described, until it comes to the 7th process, or roasting. The ore has now been advanced so far towards refining as to contain from eighty to ninety per cent. of pure metal. It has been run off from process 6 in bars, which are piled up in another furnace, and exposed to the action of strongly heated air, the temperature being gradually raised to the melting point, and thus the expulsion of the volatile impurities is completed. This operation lasts from twelve to twenty-four hours, and towards the end of it the metal is fused, and runs off into moulds formed in beds of sand. These bars, when cooled, are found to be covered with black blisters, and this is what is called blistered copper, which is subjected to the last process, or the refining. In this the bars are put into the refining furnace, and gradually melted; the surface of the metal is covered with charcoal; and a pole, commonly of birch-wood, is then held in the liquid metal, which causes considerable ebullition, owing to the evolution of gaseous matter; and this operation of poling is continued until the refiner ascertains, by various trials, that the copper is in the proper state of purity and malleability. When he is satisfied of this, the melted copper is taken out in iron ladles, coated with clay, and poured into moulds, forming cakes twelve inches by eighteen, the form required by the manufacturer for ordinary purposes. When the copper is to be used for making brass, the metal is poured from the ladle into another ladle pierced in the bottom with holes, and supported over a cistern of water, when the copper consolidates in coarse grains like shot. At many smelting-houses there are rolling-mills, where the cakes of copper are manufactured into sheets and sheathing for ships.

There are copper-mines in other parts of the United Kingdom besides Cornwall; but their aggregate produce is less than one-fifth of that of Cornwall alone. Those near Tavistock, in Devonshire, on the borders of Cornwall, have yielded, in the last twenty years, from 300 to 550 tons of pure copper annually. But the most remarkable of all the copper-mines out of Cornwall is, or rather was, that called the "Parys Mine," near Amlwch, in the northern part of the island of Anglesea. Mr. Hawkins, in his 'Essay on the Copper Mines of Europe and Asia,' says, in speaking of the Parys Mine, that, "the annals of mining exhibit no instance of a mine so productive as this has been, accompanied with so little expense in working. The labour consisted in quarrying an immense mass of ore, which rose to the surface of the ground on the summit of a hill of moderate elevation." There is reason to suppose that the ore here was partially worked by the Romans, and in the reign of Elizabeth a grant was made of the mines to certain patentees; but it is evident that they had not discovered the great body of ore, for they were almost neglected for a century and a half. It was in 1768 that the vast treasure was discovered, which added immense wealth to the family of the Marquis of Anglesea, and raised to vast opulence the family of the Rev. Mr. Hughes, who at the time of the discovery lived upon a small curacy in the eastern corner of Anglesea, but, fortunately, was part proprietor of this golden mountain. "The quantity of copper," says Mr. Hawkins, "which this single mine poured into the market for twelve years in succession, from 1773 to 1785, made such an impression as to lower the price of that metal throughout Europe, and to threaten the ruin of all the poorer mines of the kingdom." About the year 1785 the annual produce of the mine amounted to 3000 tons of copper, and in that year the aggregate produce of all the mines of Cornwall was not more than 4434 tons. Ten years afterwards, however, it had fallen off more than a third; and in 1817 it did not yield more than 350 tons. Shortly afterwards, by the able management of Mr. Vivian, the produce was raised to more than 600 tons; and in 1826 was as much as 758. It has since again declined; for in 1832 it did not yield more than 575 tons. The Parys Mountain is composed of primary slate, and the ore is the same mixture of sulphur, copper, and iron which prevails in Cornwall. The great mass of it occurred at the summit of the mountain, and was in one place forty fathoms in width: it has been traced on a small scale to the distance of five miles.

Another mine, which was formerly of some importance, is that of Ecton, in Staffordshire, near Mixon a few miles eastward of the town of Leek. The ore is a copper pyrites, or combination with sulphur, and occurs in the limestone which constitutes subordinate beds in the prolongation of the millstone-grit and shale-formation of Derbyshire. (N, Diagram 1, in No. 51.) Plot, in his 'Natural History of Staffordshire,' published in 1686, says that it had then been left off as not worth working, copper coming cheaper from Sweden; but at a subsequent period the working was resumed, and with great success, for the mine produced at one time as much as twelve tons of pure copper per week. Its richest period was about 1780, after which it gradually declined; in 1820 the produce was 236 tons, and then there was a sudden failure, when they had recourse to the sides of the vein and other poorer ores, formerly nelgected. In 1822 the produce was only 38 tons.

Some trifling deposits of copper-ore have been worked, from time to time, in Caernarvonshire, Lancashire, Westmoreland, Cumberland, and the Isle of Man. A vein was discovered, about fifteen years ago, in slate-rocks very similar to those of Cornwall, near Gatehouse of Fleet, in the shire of Kirkcudbright; but the produce has hitherto been inconsiderable. The ores from this last mine, and from the others in the north of England, are sent to Swansea to be smelted. Copper was obtained a few years since in Mainland, one of the Shetland Islands, in a bed of limestone; a steam-engine was erected, and the produce for some time was not inconsiderable.

Some years ago copper-mines were worked at Cronebane and Tigrony, in the County of Wicklow, but the produce was never considerable: in the twelve years ending 1811 the average did not amount to more than eighty-seven tons of copper annually. The ore occurs in primary slate. Copper-ore has also been worked to a limited extent in Ross Island, on the Lake of Killarney.

The total produce of pure metal from all the copper-mines of the United Kingdom, in the year 1833, was as follows:

	Tons.
In Cornwall	11,185
Swansea Sales, the ore being brought from Ireland, Wales, &c.	1,158
Devonshire	307
Anglesea	575
Cumberland and other places, smelted in Staffordshire and Lancashire	120
	13,345

The copper exported from the United Kingdom in the year ending January 5, 1834, was rather more than 7811 tons.

OLD TRAVELLERS.—BUSBEQUIUS.—No. II.

It was not until the 7th of December that the Pasha of Buda was well enough to give audience to the emperor's envoy. Although Busbequius had "sweetened him beforehand with some presents," he did not find the Pasha in an amiable or conceding humour. When he complained, according to his instructions received at Vienna, of the insolence and ravages of the Turkish troops, and demanded restitution of what they had seized in a time of truce, the Pasha, in spite of his promise to the emperor that he would make that restitution, if he would only send an ambassador to Buda, now shifted his ground, justifying his conduct in a happy style of eastern diplomacy. "Like a cunning gamester," says Busbequius, "he made as many complaints of the injuries and losses the Turks in Hungary had sustained by our soldiers; and as for his promise to restore the places his troops had wrongfully taken from the emperor in a time of peace, he eluded it by sheltering himself under this dilemma; *either I made a promise or I did not;* if I made no promise, then you can demand nothing of me: *if I did make a promise,* I presume, Sir, you are a person of too much understanding to fancy *that I can or will perform it;* for I am sent hither by my master, the sultan, to *enlarge*, not to *diminish*, the bounds of his empire; so that I must by no means make his condition worse than it was. It is my master's business, not mine. What you have to say on this head, pray propound to him when you reach Constantinople. To be short, Sir, you know I am but recently recovered from sickness, and therefore am not in a fit state to maintain any further discourse."

"When this coarse compliment was put upon me," continues Busbequius, "I thought it high time to be gone; neither could I get anything else from him, except a short truce, till the Grand Signior's mind should be known." The route pursued by our old traveller from Buda to Constantinople, was an exceedingly interesting one. He embarked with his attendants, horses, coaches, &c., in some large boats that had been prepared for him, and began to descend the river Danube. This mode of conveyance was both quicker and safer than going by land, where he would have been exposed to the attacks of the marauding bands, called by the Hungarians, Hayducs, who in those troubled times made no distinction between Christians and Turks, but plundered both alike, whenever they could. The vessel that carried Busbequius was towed along by a smaller one, in which there were twenty-four oars. The boatmen rowed night and day, excepting only a few short hours the poor souls borrowed for sleeping and eating.

During this passage our traveller was astonished, and made somewhat uncomfortable, by the temerity and heedlessness of these Turks, who rowed, or sailed on before a high wind, in the mistiest weather and darkest nights, without taking any precaution. The river, moreover, was rapid, frequently obstructed by islets, banks, and the trunks and roots of great trees. One night as he was sleeping, his boat struck with a terrible crash. "This noise," he says, "awoke me; leaping out of my bed, I advised the mariners to be more cautious; but they lifted up their voices, giving me no other answer than *God will help;* and so I might go to bed again if I would."

On his way down the Danube he saw Tolna, a large handsome Hungarian town, which he says he cannot forbear mentioning, because the inhabitants were very courteous, and their white wine excellent. From the plentiful supplies he took with him, and his frequent mention of the juice of the grape, we may suppose our friend Busbequius was no enemy to the rosy god. But, to be sure, the weather was very cold at the time, and he had few other comforts on his journey. He passed the mouths of the Drave and the Teiss, or Tibiscus, the most beautiful and magnificent of all the tributary streams that swell the waters of the Danube. Of the celebrated city of Belgrade, he says that it is well situated in the extreme angle of a promontory, at the confluence of the Save and the Danube; that *then* it was fortified with a double wall and many towers, besides having a very strong castle on a height, and that it was inhabited by people of various nations, as Turks, Greeks, Jews, Hungarians, Dalmatians, and others. After speaking of the two unsuccessful sieges laid to Belgrade by Amurath and by Mahomet II., who took Constantinople, he describes its final capture in 1520 by Solyman the Great, which misfortune he properly attributes to the imprudence of Louis, the young king of Hungary, and to the mad factions of the Hungarian nobles, who, devoid of patriotism as of common sense, could not cease their quarrels even at the presence of a powerful and insidious enemy. The following reflections of our traveller will show the dread entertained of the Turks in some of the most potent monarchies of Europe.

"Belgrade taken, and this door being once opened, an Iliad of miseries broke in upon poor Hungary, of which she is sadly sensible to this day; for this pass being gained, there followed the slaughter of King Louis, the taking of Buda, the enslaving of Transylvania, and a flourishing kingdom hereby brought under the yoke; not without a terror struck into the surrounding nations lest they also should partake of the same calamities. By this example Christian princes may take warning, never to think their frontier towns and castles strong enough, nor sufficiently provided against so potent an enemy as the Turks. For the truth is, the Turks are herein not unlike to great rivers, whose swelling waves, if they break down any part of the bank or jetty that keeps them back, spread far and near; so the Mussulmans, but far more perniciously, having once broken through the obstacles that stopped them, make a vast spoil wherever they come."

The Turks retained possession of Buda, the capital, and of a great part of Hungary, for a century and a half. From this central position in Europe they prepared their several attacks on Vienna, which they fondly thought was destined to become the capital of a western Mohammedan empire. In 1691, three years after Vienna had been saved from the last attack of the Turks by the brave Polish army commanded by King Sobieski, the Imperialists, under Prince Eugene, took Buda and the other fortresses, and cleared Hungary and Transylvania of the Mohammedans, who were driven, for good, across the Danube. But, to return to our traveller,—having arrived at Semandria, a town or castle that had formerly belonged to the despots of Servia, he travelled thence by land, on the left side of the Danube, in the direction of Nissa. On his road the Turks showed him the distant snow-covered mountains of Transylvania, and pointed out with their fingers the spot where the ruins of the Roman Emperor Trajan's Bridge were situated. After crossing the river Marave, he came to a town of the Servians, named Jagodna, when he introduces the following curious description of the funeral rites and marriage ceremony which were still observed in that country and by a Christian people.

"The dead body was placed in a church, with the face uncovered; near it were laid victuals, as bread, meat, and a flagon of wine. The wife and daughter of the deceased stood by in their best apparel;—the daughter's hat was made of peacocks' feathers. The last gift the wife bestowed on her dead husband was a purple bonnet, such as noble virgins used to wear in that country. Then we heard their funeral plaints, mourning and lamentations, wherein they asked the dead corpse how they had deserved so ill at his hands? In what they had been wanting in their duty and kindness to him that he should die and leave them in so lonely and disconsolate a condition? and similar absur-

dities. The priests who administered in this service were of the Greek church. In the church-yard we saw, erected on poles or long staves, several figures of stags, hinds, and such swift creatures, cut in wood. When I asked them the reason of this strange custom, they told us that their husbands or fathers did thereby intimate the celerity and diligence of their wives or daughters in managing their household affairs when alive. Moreover, by some graves there hung long tresses of hair, which women or maidens had placed in testimony of their grief for the loss of their relations. "We were also informed, that it was the custom in Servia, after friends on both sides had agreed about the marriage of a young couple, for the bridegroom to snatch away the bride, as if by force, for they do not consider it becoming that a young maiden should go willingly away with her husband."

These curious observances were remnants of Pagan superstitions which, of one kind or another, adhered to most of the people of Europe long after they had embraced Christianity. Among the Greeks and the Romans they mainly kept the shape and character of classical mythology, under which faith their ancestors had been brought up; and among other nations and races of men they were moulded in the beliefs that had been anciently current among them. The Servians were part of the great Slave or Sclavonian race, whose physical traits, language, manners, and customs are to be traced at this day from the extremities of Russia to Dalmatia and the shores of the Adriatic, only a few leagues from Italy. But the funeral ceremonies of the Servians, as described by Busbequius, may still be detected as existing, either wholly or in part, over a much wider tract than this. They are found to prevail throughout the vast regions of Siberia, in Kamschatka, and in the Kurile and Aleutian Isles, that almost connect Asia with America. They have been traced from the confines of the Russian empire, across central Asia, nearly to the frontiers of China and India. In the wilds of Tartary the custom of sticking figures of animals upon poles, near the graves, in honour of the deceased, has been repeatedly described, from Father Rubruquis in the thirteenth century down to our own times. Everybody acquainted with the wakes of the Irish peasantry is aware of the reproaches the mourners shower on the deceased for having left them, and of their questioning the inanimate body why he has died. And again, in certain parts of Lombardy, in the north of Italy, the peasants on similar occasions use the following rude and simple rhymes:—

"Barnabà, perchè sei morto?
Il pan' e vin' t' è mai mancà?
L' insalata c'è nell orto.
Barnabà, perchè sei morto?"

(Barnaby, why did you die? Did you ever want for bread and wine? There is plenty of salad in the garden. O Barnaby! why did you die?) Did these Italians receive these superstitions from the old Lombards who occupied the north of Italy during the seventh and eighth centuries, and who were notorious for their predilection to Pagan customs, although they were Arian Christians? or did they learn them from any of the other northern conquerors of Italy? or did they borrow them from the Sclavonians on the opposite side of the Adriatic? We know not: yet we may pretty safely conclude that these singular observances, whether found in Ireland, Italy, Dalmatia, Servia, or Tartary, are remnants of an ancient religion and customs that once prevailed over a large part of the globe.

Departing from the Servian town of Jagodna, Busbequius went on to a small river, called Nissus by the inhabitants, and this he kept on his right hand almost all the way until he reached the town of Nissa. In previous parts of the journey, and near the Danube, he had picked up old Roman coins, which he thought denoted the spots where the legions of Upper Mœsia had once been encamped; but a little beyond Nissa, near the bank of the little river, he saw the remains of an ancient Roman road, and a small marble pillar with a Latin inscription. The pillar was still erect, but the letters of the inscription were defaced and illegible.

"As for the town of Nissa," he says, "for that country it is a decent one, and full of inhabitants." Here he was lodged in a public khan or caravansaray, his description of which closely agrees with one we have given in No. 166 of the 'Penny Magazine.' One grievous disturbance which he was subjected to was this:—The victorious Turks who escorted him on his journey were wholly unacquainted with watches, and apt to rouse him in the middle of the night, thinking day was approaching, and it was time to make ready for the day's march. In this way, he says, after having been called, and having packed up all his things,—his bed, chairs, boxes, &c.,—he was obliged to have everything unpacked again with no small trouble, or else to endure a great part of the coldness of the night in the open air. To prevent this serious inconvenience he desired the Turks not to wake him for the future, but to tell him over night at what time they wished to start in the morning, and he would be sure to be ready, as he had certain machines with him that would not fail to acquaint him with the precise hour. The Turks were glad to hear this, as it would save themselves much trouble and inconvenience. At first, however, they could not understand how any machine could do all this. "So in the morning betimes," says our traveller, "they came and awoke my valet, desiring him to go to me and see what my watches said: he did so, and returned answer to them as well as he could, that it was such an hour, or very near sun-rising, according as he found it. When they had thus tried him once or twice, and found that he hit the time right, they trusted me for the future, and marvellously admired the structure of our watches that could so faithfully declare the time: so that ever after we slept out our sleep without any disturbances from the Turks."

[To be continued.]

Anecdote of Rooks.—(From a Correspondent at Lewes). In a garden bordering on the outskirts of the town of Lewes is a walnut-tree, which, for the last five years, has been nearly stripped of its fruit by the common rooks. They begin their depredations just as the fruit is ripe, and carry it off with such expedition that the tree is seldom worth the trouble of thrashing. I have been amused for hours together by observing their proceedings. They come one after another so quickly that I counted, one morning, fifty in twenty minutes, each taking one; and sometimes I have seen them carry away a whole bunch. Some of them are quite adepts. They fly towards the tree, and, when within ten yards, stop, and seem to float in the air for about a second, as if surveying the tree to discover what nuts are easiest of access; they then dart at the tree, and seldom miss their object, but if they do miss it, they find some difficulty in recovering their balance. Others, which I suppose are the young ones of the existing year's brood, settle on the tree and knock a great many down before they can get one firmly enough in their beak to fly away with. The old ones will sometimes attack the young and oblige them to let their booty fall; when, such is their quickness and certainty of aim, they will sometimes catch the walnut before it reaches the ground. They invariably fly into an adjoining field, where they break open the walnuts with their beak, and as soon as finished return for more, unless the report of a gun should frighten them. They have, to my recollection, been at this tree, year after year, for the last five years: there are other walnut-trees situated in the town, but they have not yet had the boldness to attack them.

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THE SEAL.



[Greenland Seal Hunting.]

In the natural history of seals there is very much that yet remains to be elucidated. This need not surprise us when we consider the ignorance which exists concerning mammalia much more within our reach than these marine animals. We have not, indeed, as Cuvier remarks, the means, except by deduction and analogy, of ascertaining the habits of these half amphibious animals, while procuring their sustenance at the bottom of the sea; nor have we often the opportunity of watching them, in an efficient manner, in their favourite haunts, the isolated sterile rock, or the most retired and deserted strand. We are, however, acquainted with the physical structure of the animal, and possess some knowledge of its character and habits.

The family of *Phocæ* includes a considerable variety of species, the distinguishing characteristics of which it is not necessary to enumerate. We shall state the circumstances of structure and habit in which they all agree, unless otherwise mentioned. The form of the body of the seal bears a general resemblance to that of a fish. The short limbs are chiefly enveloped in the common integument, the part which appears externally serving the purpose of a fin or paddle. The hind feet are placed at the extremity of the body in the same direction with it, serving the purpose of a caudal fin: the fore feet also are adapted to swimming; and the toes in both the fore and hind feet are furnished with claws, and united by a membrane. Neither the thighs nor legs of either the fore or hind extremities are visible, which gives an appearance of extreme shortness

to the limbs. This occasions the animals to crawl on land with great awkwardness and seeming difficulty; but they move easily and gracefully in the water. By means of their fore-feet they can lay hold of objects with sufficient firmness to drag themselves up shores, and even on shoals of ice, however slippery they may be. Even on land they move with more quickness than their appearance would lead one to expect; so that it frequently happens that when they have been dangerously wounded, hunters are unable to overtake them before they get to the water's edge and throw themselves in.

The tail is very short, and is placed between the hind feet. Some of the species are furnished with external ears, while others have only small auditory orifices. The eyes are large and prominent; and the nostrils open or close at the will of the animal. The upper lip is provided with strong whiskers, and the body is usually covered with hair. The internal structure of seals is similar to that of land quadrupeds, and atmospheric respiration is therefore indispensable to their existence, though they are capable of remaining under water a long time. In the arctic regions seals are sometimes found under the ice at the distance of many miles from open water; and they then form circular breathing holes, even though the ice should be several feet thick. These openings are kept clear; but the surface is allowed to freeze over partially, so as to conceal them effectually, except from very experienced eyes. Cuvier remarks that the nostrils of the seal are seldom opened except when it is desirous of expelling the air from its lungs, or introducing fresh air. They then assume a circular form. Respiration in the seal is extremely unequal, and often performed after long intervals. There are generally from eight to ten seconds between each inspiration, and the operation is sometimes suspended for half a minute without apparent inconvenience. It would seem that the nostrils are habitually closed, and that the act of opening them is attended with some effort. The quantity of air, however, that enters the lungs must be considerable, to judge from the motion of the sides, and the air expelled at each respiration. The quantity of the air seems to compensate for the paucity of the inspirations; for few animals have more natural heat or a greater quantity of blood than the seal.

The dental system varies considerably in the different species, and would seem to indicate a corresponding diversity in their habits; but the form of the teeth and jaws shows them to be mostly carnivorous, and their food appears to consist generally of fish, crabs, and sea-birds, which they are able to surprise while swimming. The mastication, at least in the common seal, goes no farther than to reduce the prey to such dimensions as may render it barely capable of passing the larynx and œsophagus. To produce this effect they generally confine themselves to pressing the prey between their teeth, not so as to divide it in pieces, but merely to contract it in size. Sometimes they will tear their prey with their claws; but they are more frequently observed to swallow it entire, even when apparently too large for their mouths. Thus they are frequently compelled to raise their heads to facilitate the operation of deglutition, so that the weight of the aliments may contribute to make them slide into the œsophagus and stomach, and favour the efforts of the muscles. Nature has facilitated this operation, not only by providing the animal with the means of distending excessively all the parts through which the aliment must pass, but has also supplied them abundantly with a viscous saliva, which fills the mouth to such a degree, that during deglutition it escapes in long threads; and this is also observed to take place even when the seal only perceives its prey.

The females produce two or three young, generally in the winter season; continue to feed them for about a fortnight in the place where they were brought forth; and suckle them nearly in an upright position, resting on their hind legs. When the cubs have acquired sufficient strength to contend with the waves, the mother conducts them to the water, and teaches them to swim about in search of food. The attachment of seals to others of the same species, and especially to their own offspring, is highly interesting. When in danger, the safety of her cubs is the chief object of attention with the mother, and even when badly wounded she is often known to succeed in carrying them off to sea in her mouth. The male parent, particularly of the ursine seal, seems to take scarcely less delight in the young than the mother. While basking in the sun upon the shore, he eyes them with the greatest complacency, and expresses his satisfaction by licking and kissing them as they sport and tumble about, and engage in sham fights before him. Seals are many years in attaining their full growth, and Buffon is inclined to believe that the duration of their lives often extends beyond a century.

All the species of seal live in herds, or families, more or less numerous, along the shores of the sea, and are fond of sunning themselves, and of sleeping upon the beaches, rocks, or ice-banks. When they do this in situations in which they are apprehensive of danger, instinct, or perhaps we should say experience, has taught them to take the precaution to post a sentinel to give an alarm when he observes any thing to excite apprehension: besides which, the common seal, while thus reposing, raises its head at frequent intervals, and looks around to observe that all is safe within its range of vision. In situations where they rarely experience disturbance, they sleep very profoundly and are easily surprised. In Iceland, and perhaps elsewhere, the seal has also a useful friend in the great sea-gull. In that country, the sportsmen, who are usually well acquainted with the haunts of the seal, raise up little bulwarks to conceal their approach, or wait for them behind a rock; the gull, however, understands these approaches, and frequently baffles all the precautions of the hunter by flying over his head and screaming close to the seal. If the latter does not take the alarm, the bird strikes him on the head, and as soon as he slips into the water seems perfectly conscious that he is no longer in danger*.

Fights sometimes occur between the different species, between different herds of the same species, and between some species and the bears. But seals are generally of a pacific disposition: they avoid man when it is in their power to do so; but, when they have no other resource, defend themselves with a great deal of courage. They are in general very tenacious of life, and survive wounds which would kill most animals; but they are, on the other hand, much more easily despatched by blows on the head than most other quadrupeds. The size of the animal varies exceedingly in the different species. The full-grown bottle-nose seal measures from eleven to eighteen feet in length, and from seven to eleven in circumference; the length of the morse is from fifteen to eighteen feet, and that of the common seal is only from four to six feet. The flesh of some species is held in considerable estimation, while that of others is scarcely eatable, even by sailors long confined to salt food.

Few quadrupeds are more extensively diffused, in the different species, than the seals. They in general seem to prefer cold climates, but there is scarcely any sea on the shores of which they are not found. The appearance of the common seal is quite familiar on the northern and western shores of Scotland. Though properly a marine animal, the seal is found in fresh-

* Quarterly Review, vol. vii., 1812.

water lakes, as those of Baikal, Ladoga, and Onega; but in such situations it is of an unusually small size, but so fat as to appear almost a shapeless mass. Seals, indeed, become in general very fat. Their oil, as well as their skins, are important objects of commerce. The oil is pure, and adapted to all the purposes for which whale oil is used; and the skins are extensively employed by trunk-makers, saddlers, hatters, and others. Expeditions are fitted out from Europe and the United States for the sole purpose of catching seals. The Americans, in particular, annually visit the South Seas in search of these quadrupeds. A "sealing" voyage, with them, sometimes lasts three or more years, and the crews are exposed to very great hardships: they are often left in detachments upon small desert islands for months, for the purpose of hunting the animals to greater advantage; and years have sometimes elapsed before they have been able to obtain a release.

The seals are still more important to the natives of the barbarous countries on whose shores they are most abundantly found than to Europeans. The following account of the uses of the animal to the Aleutian islanders, from Langsdorff's Voyage round the World, is very generally applicable in such circumstances. "The animal forms such an essential article to the subsistence of the Aleutians in a variety of ways, that it may be truly said they would not know how to live without it. Of its skin they make clothes, carpets, thongs, shoes, and many household utensils; nay, their canoes are made of a wooden skeleton with the skin of the sea-dog (the common seal) stretched over it. The flesh is eaten, and of the fat an oil is made, which, besides being used as an article of nourishment, serves to warm and light their huts. The œsophagus is used for making breeches and boots, and the large blown-up paunch serves as a vessel for storing up liquors of all kinds. Of the entrails are made garments to defend them against rain, and they also serve instead of glass to admit light into their habitations: the bristles of the beard are used, like ostrich feathers in Europe, as ornaments for the head; there is, consequently, no part of the animal that is not turned to some use."

The hunting of seals is consequently prosecuted with great eagerness, and in various modes, by the Greenlanders, Finlanders and others. The mode generally used by the former people is exhibited in our engraving. The Kamtschatkadales connect strong ideas of honour and glory with the hunting of the Maned seal. In the chase of a single animal they will expose themselves to the greatest dangers, wandering over the waves for days together without any other guide than precarious glimpses of the sun and moon; and he who kills the greatest number, either by blows of a long stick or with poisoned arrows, is regarded as the most heroic. As the adventurous sportsmen deem it disgraceful to leave any part of their game behind them, they sometimes overload their limber and crazy boats, and, disdaining to save their lives by relinquishing any portion of their highly-prized acquisitions, proudly perish with them in the waves.

SAREPTA.

[From a Correspondent.]

There are towns which the gazetteers dismiss in three or four lines, and the names of which are printed in small letters in the map, if they find a place there at all. Yet some of them are, from peculiar circumstances, invested with such interest, that their images are distinctly pictured on the traveller's mind, and their remembrance more frequently recurs than many of much loftier pretensions. Sarepta is one of these places; and though seldom described in books of reference, it occupies a place of considerable prominence among our own recollections of a journey performed, in the year 1829, from St. Petersburgh to the southern limit of the Russian empire.

Sarepta is a small town in that empire, situated about twenty-four miles below the town of Tzaritzin, on the river Sarpa, near the point of its junction with the great river Wolga. It is therefore situated so near the line which separates Europe from Asia, that it seems not at all agreed which division of the globe it is in. The circumstances that invest Sarepta with the interest to which we have alluded, are those which render it an oasis, both moral and physical, in the wilderness and solitary place where it stands. Let the reader imagine a spot marked out in the midst of the naked desert, and planted and made fruitful by the hand of man; in this spot stands a town, from which the traveller may proceed in any given direction for thousands of miles without finding another in the least resembling it. Instead of cottages built with the trunks of trees, and arranged in one long street, as is customary in the small towns and large villages of Russia, the town is laid out in several short and wide streets, all of which meet in a fine large square, in the midst of which there is a fountain; and the houses, some of which are large and all commodious, are built of brick and stone; the front too is usually covered with plaster washed with lime or yellow ochre, while before each house, as is common in England, but rare in Russia, there is a little railed garden for choice flowers. The streets are also lined and the square ornamented with fine tall poplars; and every thing concurs to give to the traveller such a *feeling* of the moral beauty of neatness and order as it is scarcely possible he can ever again realize, because so strong and beautiful a contrast to all that a most extensive region exhibits can hardly elsewhere be found. This is Sarepta. It seemed to us, when we first saw it, as if the little town, with its gardens, vineyards, and cultivated lands, had been suddenly uprooted from the very thick of European civilization in England or Germany, and planted, unaltered, far away in the "waste howling wilderness."

The primitive and quiet people (Moravians) of German parentage who inhabit the town perfectly harmonize, in appearance and character, with the circumstances of the place, and the impression they convey. In the day-time so few people appear abroad that the town seems to be almost deserted; but those who do appear then, and towards evening, when they walk abroad or sit at their doors, are uniformly clean and neat, though homely in their appearance. Fashion is never heard of there, and probably many long years have passed away since the cut of their clothes received the slightest modification. Intoxication is not known among them, and the outbreakings of improper passions are seldom witnessed; and in their traffics they are the only people for thousands of miles around them who do not name, as a first price, a sum beyond that which affords a reasonable profit. We were not at first aware of this; and as common and costly experience had taught us the necessity of bating the first prices named, we were about to do so in purchasing some cutlery at Sarepta, when we were quietly, but decidedly, informed that prices were always fixed with a full consideration of what was due both to the seller and the buyer, and that no alteration was then ever made.

We were informed that the population of the place amounted to 400, and had never exceeded 500. From the comparative solitude of the streets, the traveller would hesitate to think the number of people nearly so large as even this, unless the Sunday afforded him an opportunity of observing almost the entire population proceeding towards their neat and spacious chapel, the women in their plain linen dresses, with whimsical but not unbecoming little white caps; and the men in their holiday clothes, with red-edged books under their arms.

Until an opportunity is thus afforded of counting the number of the hands subject to the operation of a principle which regards idleness as a crime, and perhaps until their operations are well inspected, no idea can be formed of the activity which reigns in this little colony. In this remote and quiet place there is a great deal of business going on, without any bustle or stir to denote its presence. The manufactures of this little town are held in high esteem throughout the Russian empire for solid and superior fabric, and may be found as "strongly recommended" articles in the shops of Moscow and St. Petersburgh. There are mills, distilleries, tanneries, &c.; and while all the handicraft trades are practised, there are important manufactures carried on of silk, cotton, and linen hose, candles, soap, snuff; and they manufacture a peculiar cap of coloured cotton, which is much in demand among the wives of the Don Cossacks. The spot inhabited by these industrious and worthy Hernhutters is little favoured by nature; nevertheless, the care and skill of man, and the force of industry, have invested the stubborn soil with cultivated fields, rich meadows, vineyards, orchards, and beautiful gardens. These furnish, besides grain, most species of fruits and legumes; tobacco also is cultivated, which, together with the little wine and more brandy, made from the produce of their vineyards, furnish objects of advantageous traffic. From their raisins they also extract a syrup which is employed for the same uses as sugar. Besides their own manufactures and produce, articles from remote countries may be found in their warehouses. But no other than genuine articles—none pretending to be what they are not—could be seen there. Thus, English cutlery of the best sort could be obtained at a price which, considering the distance, strikes one as remarkably low; but none of the common hardware made in Russia after English patterns, and stamped with English names, could be seen in the town, either as used by the inhabitants themselves or sold by them to others.

Such is Sarepta—beautiful and dignified in all the simple beauties and dignities of civilization; and with little of the crime and evil within its walls which too frequently disgrace the dwellings of civilized men. But a walk of ten minutes from the centre of Sarepta conducts the traveller into the desert where the soil crackles beneath his feet, and from the well-built and comfortable houses of European civilization to the dark tents of the Kalmucks and strange features of a different and barbarous race of men. It is not in language to express the effect produced on the mind of a stranger by the close approximation of human beings and forms of society so completely different; and this effect is the stronger from the fact that a person travelling towards Astrakhan encounters the encampments of the Kalmucks for the first time in the neighbourhood of Sarepta; the force of the contrast is therefore not weakened by any previous familiarity with this remarkable people and their modes of life. One of the three great hordes into which they are divided frequent the neighbourhood of Sarepta during the summer months, and had not all removed when we arrived at the town.

Our limits only allow us to state the history of Sarepta very briefly. The desire of the Moravians to render themselves useful to the Kalmucks being known, the Empress Catherine, in 1764, issued an edict in their favour, and signified a wish that they should form a settlement on the banks of the Wolga. The "brethren" gladly accepted the proposal, and the year following five of their number proceeded from Germany to St. Petersburgh, and from thence to the banks of the Wolga, where they began, with the assistance of some Russians, to erect the necessary buildings, to cultivate the ground, and to work at their trades. The arrival of new parties of "brethren" and "sisters" in subsequent years, not only increased the number of inhabitants, but in a short time rendered it a very flourishing place, and an addition was in after years made to its prosperity by the discovery of a mineral spring about five miles from the town. The settlement was temporarily broken up in 1774, in consequence of the revolt of the Cossacks of the Oural; and, not many years since, a part of the town was destroyed by fire, from the effects of which calamity it had not recovered at the period of our visit. The Kalmucks in their neighbourhood have behaved with great civility, respect, and kindness, from the beginning; and at a very early period their khans issued an edict for regulating the conduct of their subjects with respect to the land belonging to the settlement. The settlers have failed in their attempts to extend the benefits of religious instruction to the Kalmucks, and the object has now for several years been relinquished.

HOGARTH AND HIS WORKS.—No. IX.

The Election.—Plate I.

Does the picture before us altogether represent a past state of society? We fear not. A great change in our laws has swept away many of the constituencies who were most open to the evil influences of electioneering riot and corruption; but are there not many still among us who look upon the solemn trust of an elector lightly and selfishly,—who seek in its exercise for some gratification of their vanity, or their sensuality, or their avarice? As long as this social ignorance exists, Hogarth's prints of 'the Election' will have more than historical truth. They will be bitter satires, in which every venal elector may find a record of his own crimes and follies.

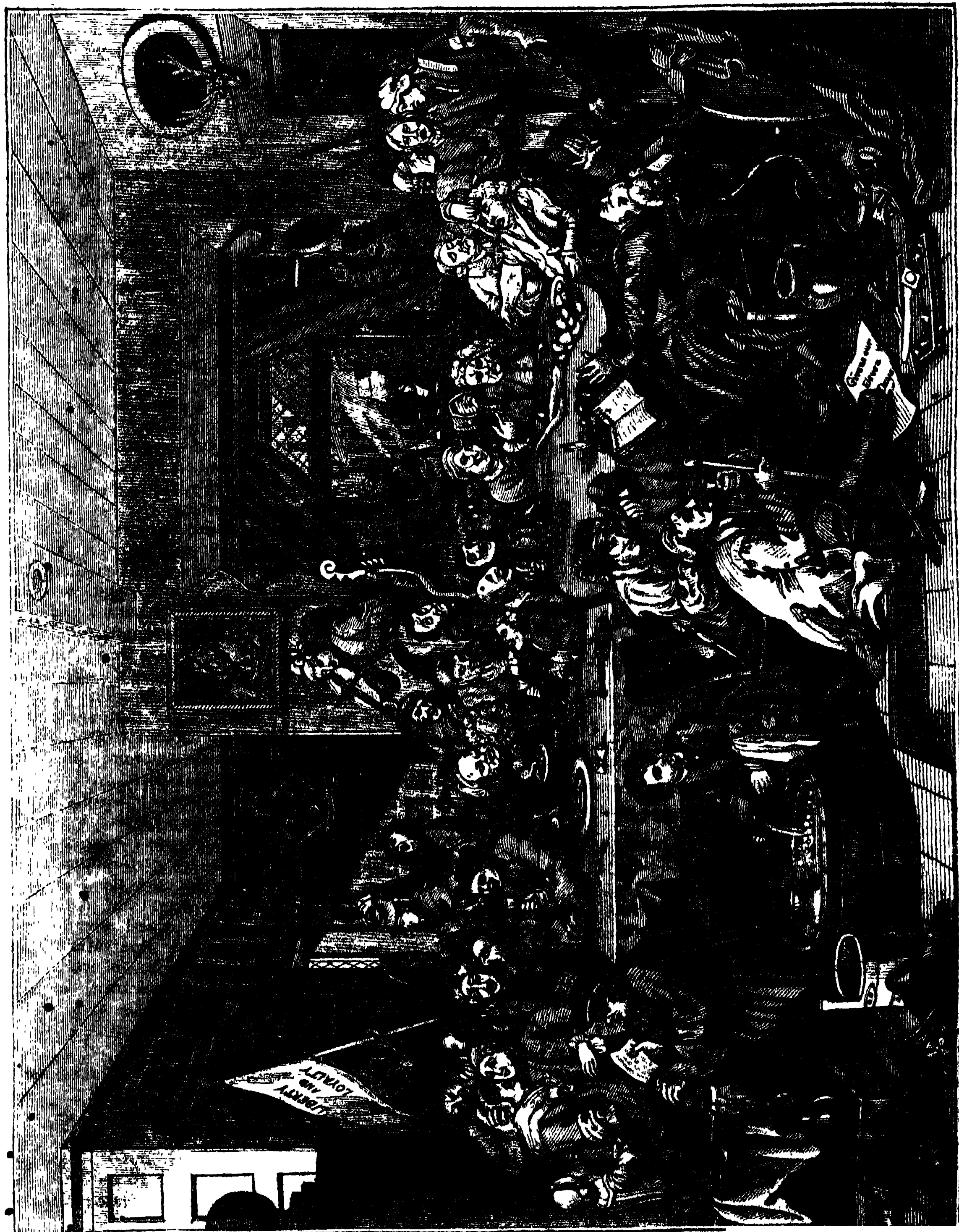
Hogarth's Election prints are four in number:—1, The Feast; 2, the Canvass; 3, The Polling; 4, The Chairing. They were published separately: the first appearing in 1755, and the last in 1758. The "treating," which was in Hogarth's time so extensively employed for the debasement of electors, has been greatly curtailed by statute and by custom. But the evil practice still exists; and men who are about to discharge a duty which requires a sound exercise of the judgment, are, in some places, kept in a state of riotous excess, which utterly disqualifies them for making a wise and honest choice of a representative. We are improved, no doubt, since Hogarth's time; and there are many amongst us who apply themselves to the discharge of the elective trust with the high spirit and conscientious prudence which show their sense of the obligation by which they are bound to their country to make a fit choice of one who is to protect the dearest interests of the community. But there are others, we apprehend, who would still sell "their birthright for a mess of pottage." May they learn better

'The Election Feast,' is, in many respects, one of the most wonderful of Hogarth's performances. The inexhaustible variety of character, and the distinctness with which the whole scene is brought out by the action and expression of the several groups and individuals, are apparent to the most superficial observation. To a person acquainted with the principles of art, the skill with which the scene is managed appears as perfect in its kind as the composition of any of the great pictures of the historical painters: let us endeavour to give a key to this remarkable work.

The candidate is at the top of the table, on the left of the picture. An old woman, such as the "fat woman of Brentford," in Shakspeare's 'Merry Wives' is oppressing him with her caresses. An elector is knocking their heads together, in the spirit of impudent familiarity which election license engenders. In the foreground, near the candidate, is a dealer in haberdashery, who has

brought his ribands and gloves to bribe the electors' wives, he is paid by a promissory note, which he does not appear much to relish. The man in the wig, on the left of the candidate, is a person of some rank, who is writhing under the coarse jokes of the fellows at his side. The gluttonous clergyman next this group, who is suffering from the heated room and the chafing-dish near him, over which he is warming his venison, is a character which of course is extinct. The practical jesters who are amusing themselves and their companions—the one by comparing chins with the fiddler, the other by making up the back of his hand to represent his neighbour's rueful face—belong to every age. The alderman at the bottom of the table in a fit of apoplexy—the wife threatening her husband with domestic vengeance if he refuses the tempting bribe, whose temptation is to be found in the rags of his little boy—the attorney knocked off his chair by a brickbat which has come through the window—and the man on the floor having gin poured upon his broken head—are fair examples of election occurrences, wherever men have not learnt to forego greediness, venality, and mob violence. These things will perhaps always exist where there is popular ignorance. The flags of the rival candidates in Hogarth's print show the materials with which prejudice and passion work. On one is written "Give us our eleven days;"—in allusion to the alteration of style, which was an unpopular measure;—on another, carried by the mob without, appears "No Jews!"

We cannot attempt any minuter description of the print: it will bear a careful study.



[The Feast.]

OLD TRAVELLERS.—BUSBEQUIUS.—No. III.

FROM Nissa Busbequius travelled on to Sophia, which was once the capital of the kings of Bulgaria, and then of the despots of Servia, until they were conquered by the Turks. He found it "a town large enough, and well inhabited both by citizens and strangers."

From Sophia, or St. Sophia, as it is frequently called, he continued his journey for several days "through the pleasant and not unfruitful valleys of Bulgaria." All the time he was in that country the only sort of bread he could get were cakes baked under ashes upon the hearth. "The women and maidens," he says, "do sell them, for they have no bakers in those parts; and when they see any travellers coming that are likely to pay for what they eat, immediately they knead a little dough with water, without any leaven, and lay it upon tiles, under the ashes, and so bring out their cakes piping hot, and sell them for a very trifling matter: other victuals being also very cheap there."

He was much struck with the garments and head-dress of the Bulgarian women. Of the first he says, "They commonly wear nothing save a wide long smock or shift, made of linen thread, but as coarse as our sack-cloths. And yet these coarse garments are worked by them with several stripes of fanciful needle-work in colours, and with this loose parti-coloured habit they mightily please themselves; so that when they saw our shirts, made of the finest linen, they much wondered at our modesty that we should be content to wear them unseen under our clothes, and without having various works of divers colours upon them."

Of the second he says, "But that which I most admired in them were the towers they wore on their heads. They were made of straw. The figure of these hats differs from that of the hats women wear in our country, for ours hang down on the shoulders, and the lowest part of the hat is the broadest, and thence it rises, as it were, into a pyramid at top; but theirs is narrowest below, and thence rises up like the shape of a huge spinning-top to a great height above the head; and also the crown, or that part of the hat that looks upwards toward the sky, is both very capacious and very open, so that it seems made to take in rain, as ours are to shelter us against it. But in the space which lies between the upper and lower part of the hat, they hang pieces of coin, little pictures or images, small parcels of painted glass, or whatever else is resplendent, though never so mean; and all these things are accounted very ornamental among them. These hats make them look taller and more majestic than they really are; but they are easily blown off their heads by a gust of wind, and do, indeed, by any slight motion, fall of themselves."

After these descriptions of their toilette, he indulges in the following quaint style of reflection:—

"When they appeared to us in this dress, methought they resembled Clytemnestra, or some Hecuba or other, in the flourishing time of Troy. The sight suggested to me some pious meditations, viz., how frail and changeable a thing that which is called 'nobility of birth' is: for when I asked of some of those lasses, they that seemed the handsomest among them, concerning their stock and lineage, they told me they were descended from the chief nobles of that country; and some of them were of a royal progeny, though now it was their fate to marry herdsmen or shepherds; for nobility is very little esteemed in the dominions held by the Turks."

The Bulgarians, like the Servians, are of the great Sclavonian family. They speak a dialect of the Slave or Sclavonian language, differing little from those spoken in Russia, Poland, Servia, Bohemia, Dalmatia, &c. In the last Russian war against Turkey, the Muscovite troops could converse with these inoffensive peasants without much difficulty. "It is thought," says Busbequius, "that the Bulgarians had their origin in Scythia, near the river Volga, and that they changed their habitations, and came into these parts of Europe, when other nations or hordes, either compelled by force or prompted by choice, changed theirs; and that they were called Bulgarians, *i. e.* Volgarians, from the river Volga, aforesaid."

Several modern travellers who have visited Bulgaria have been struck with the resemblance its rude villages and pastoral settlements bear to the descriptions we have of Scythian or Tartar towns.

"After their migration from the Volga," continues Busbequius, "they fixed their habitations upon those parts of Mount Hæmus that lie between Sophia and Philippopolis, which country is naturally very strong. There, for a long time, they baffled all the power of the Grecian emperors, and killed Baldwin the elder, Earl of Flanders, then Emperor of Constantinople, after they had taken him in a hot skirmish. Yet for all this they were not able to resist the powerful Turks, but were overcome and miserably enslaved by them." They are now, next to the Armenians, the most peaceful subjects in the sultan's dominions; though, during the late war, they are said to have shown a decided partiality to their co-religionists the Russians, who, moreover, spring from the same great race as themselves. In their native mountains the Bulgarians are nearly all shepherds or herdsmen. They are fond of dancing and music. Their favourite instrument is the bag-pipe, which, as we have said on a former occasion, when describing it among the shepherds of the Abruzzi in Italy, is found in nearly all the mountainous countries of the world. Every spring a certain number of these poor fellows go to Constantinople, to attend the sultan's numerous stud that are then sent out to grass in the "Valley of the Sweet Waters,"—a beautiful place at the end of the Golden Horn, or port. In consideration of this service they are exempted from the *kharatch*, or poll-tax, paid by the rayah subjects in Turkey, and enjoy a few trifling privileges. Rude as their skill is, it covers their expenses on the road. They generally contrive to reach the capital a week or two before the sultan's horses are confided to their care. They spend their time profitably in playing and dancing in the streets and coffee-houses of Constantinople, where the Turks reward them with paras*; and even afterwards, when with the horses at the "Sweet Waters," they have opportunities of employing their talents; for that spot is crowded on every holiday with Turks, Greeks, Armenians, Jews, and Franks. Their bag-pipes are generally accompanied by small tabors. Their dancing is grotesque in the extreme. About the middle of June, when the steeds are returned to their stalls in the seraglio, the Bulgarians set off for their mountain-homes, and again pay for their lodging and food on the way with tunes and dances. They are simple, but strange, and almost wild in their appearance; they are generally short, but robust; have light grey eyes, high cheek-bones, and sharp hard features, being not unlike some of our own highland tribes. They wear sheepskin jackets and sheepskin caps, with the woolly side turned outwards, and sandals on their feet, of equally primitive manufacture. If these poor fellows carry home but the value of a few shillings in money, they have made a good campaign, and are accounted rich.

But, to return to Busbequius. Travelling across the mountains of the Hæmus chain, which may be better known to our readers under its modern name—the Balkan—he came to the woody and rocky defile called by the Turks "Carpi-derbent," or the Gate of the Narrow Passage. Having gone safely through this mountain-pass, which descends towards the plains of Thrace, he presently reached the classic river Hebrus,

* Very small Turkish coins, many of which go to make an English farthing.

that has its source in the neighbouring mount Rhodope, that towered within sight, "all covered over with deep snow." This was the scene of the fabled catastrophe of Orpheus, whose dissevered head (in mythology) floated down the stream of the Hebrus to the Ægean Sea, murmuring as it went the name of his much-loved mistress—"Eurydice!" "Eurydice!" But the Austrian ambassador was not so poetical on the occasion as the English ambassador's wife—the fair and witty Lady Mary Montague, who, nearly two centuries after, travelled over much of the same ground that Busbequius took in his route.

Shortly after coming in sight of the river Hebrus Busbequius arrived at Philippopolis. The plain before that city was full of round hills of earth, or tumuli, like those that exist and are so celebrated in the plains of Troy. The Turks told him their nation had raised these tumuli as monuments of great battles, and to cover the graves of such as had nobly fallen in them. The Turks no doubt raised some of them, but many existed in ancient times. Herodotus mentions the erection of some of them, in this particular country, by the army of Darius, whilst on its march against the Scythians. They are found not merely in the plain of Philippopolis, but all through Thrace. On the other side of the Balkan mountains they are seen scattered here and there all the way to the Danube; from the other side of the Danube they extend all along the shores of the Black Sea to the Crimea, whence, as we have mentioned in the Travels of Rubruquis, they are to be traced through the Tartar deserts. Another branch of them runs across the plains of Poland and Russia; but, at one time or another, the practice of raising them seems to have been common in most Asiatic and European countries. It is quite certain that they are not all tombs. Even in comparatively recent times Turkish armies have been known to throw up many (and one or two larger than the largest in the plains of Troy) for the purpose of displaying on their summit the Sandjak, or standard of Mahomet; and it is very probable that their Scythian or Tartarian ancestors had a somewhat similar custom.

From Philippopolis Busbequius continued his journey to Adrianople, whence he proceeded by Selivria and Tchurli to Constantinople. As he travelled along the shores of the Sea of Marmora, or the Propontis, he was delighted with the prospect of that narrow calm inland sea. "And it was very pleasant to us," he says, "to behold the smooth waters, and to gather shells on the shore; yea, to behold shoals of dolphins sporting in the water, which, with the warmth of the air, was delightful. It can hardly be imagined how mild the weather is in these parts! There is, as I may call it, a Thracian breeze with an incredible sweetness of air."

MINSTREL'S COURT AND BULL-RUNNING AT TUTBURY, STAFFORDSHIRE.

Among the many facetious institutions of the celebrated John of Gaunt, Duke of Lancaster, fourth son of King Edward IV., may be mentioned the Minstrel's Court, and its accompaniment, the bull-running, at Tutbury, in Staffordshire. Of his reasons for instituting such whimsicalities we cannot pretend to form any judgment, but that they had existence for a long succession of years, and in fact till nearly the end of the last century, is a fact not to be disputed.

To enter into the history of minstrels or minstrelsy, would (however interesting in itself) be here unnecessary. The order appears to have been a privileged one, and its members were always assured of a hearty welcome wherever they chose to confer the honour of a visit. This at least was the case in the early period of their institution; for, like bards of still older times, they possessed all the legendary lore of the country, and repeated their histories and rhymes for the gratification of their patron, at every feast and every time of public entertainment.

To encourage these itinerant musicians, and to assist them in the improvement of the science of music, may perhaps have been one cause of the mirth-loving duke forming all those in his own neighbourhood into a corporation, subject to the government of a chief under the title of "King of the Minstrels." The instrument for investing him with this authority is thus translated from the original Norman French, dated in the fourth year of Richard II.

"John, by the Grace of God, King of Castile and Leon, Duke of Lancaster, to all who shall see or hear these our letters greeting. Know ye that we have ordained, constituted, and assigned to our well-beloved the *King of the Minstrels*, in our honour of Tutbury, who is, or for the time shall be, to apprehend and arrest all the minstrels in our said honour and franchises that refuse to do the service and attendance which appertains to them to do, from ancient times at Tutbury aforesaid, yearly on the days of the Assumption of our Lady, giving and granting to the said King of the Minstrels for the time being, full power and commandment to make them reasonably to justify, and to constrain them to perform, their services and attendance, in manner as belongeth to them, and has been here used and of ancient times accustomed."

By this instrument, however, it appears that the Duke of Lancaster before that time considered these minstrels as his vassals, and expected certain services and attendance from them, which, in all probability, being irregularly paid, rendered some rules or regulations absolutely necessary. He then, in addition to the power given to the King, very soon afterwards established the Minstrel's Court, where all plaints and controversies among the minstrels might be heard and determined. "It was held," says Sir Oswald Mosley in his 'History of Tutbury,' "before the steward of the honour, on the morrow after the Assumption; and the jury, who consisted of musicians, elected four stewards, one of whom was to be king for the ensuing year. These officers, when elected, had full power and authority to levy and distrain for all such fines and amercements as were inflicted by the jury of the said court upon any minstrels for the infraction of such orders as were then made for the government of that society: and the amount of such fines was returned at every audit by the stewards, one moiety of which went to the Duke of Lancaster, and the other to the stewards for their trouble."

The court thus established continued for many years, and orders were annually issued for the better government of a body always too much inclined to become refractory. As a specimen of what these orders were, the following, of the date of Charles I., is extracted from the original manuscript in the office of the duchy.

"Orders made and set forth by the Honourable Edward Lord Newburgh, Chancellor of the duchy of Lancaster, and the Counsel of his Majesty's Court of the Duchy Chamber, in the fifth year of the reign of King Charles the First, for the better ordering and governing his Majesty's Court, called the Minstrel's Court, yearly holden at Tutbury, on the morrow after the Feast of the Assumption of our Lady, and of the musicians and minstrels within the counties of Stafford and Derby, who owe suit to the same court."

"That no person shall use or exercise the art and science of music within the said counties, as a common musician or minstrel, for benefit and gains, except he have served and been brought up in the same art and science, by the space of seven years, and be allowed

and admitted so to do at the said court by the jury thereof, and by the consent of the steward of the said court for the time being, on pain of forfeiting, for every month that he shall so offend, three shillings and fourpence. And that no such musician or minstrel shall take into his service to teach and instruct any one in the said art and science, for any shorter time than for the space of seven years, under the pain of forfeiting, for every such offence, forty shillings. And that all the musicians and minstrels above-mentioned shall appear yearly at the court called the Minstrel's Court, on pain of forfeiting, for every default, according to old custom, three shillings and fourpence."

Thus it appears that the intention of this court was principally to encourage the study and practice of music, and that this was continually enforced in their annual orders. The end, however, which such a study sought to attain could not be that of softening the manners of mankind, or of fostering the feelings of humanity in the inhabitants of Tutbury and its neighbourhood; for we find coeval with this court, and in a great measure forming "part and parcel" of it, the establishment of that barbarous and disgraceful exhibition known by the name of the "Tutbury Bull-running," a ceremony compared to which a common bull-baiting is a merciful amusement.

John of Gaunt married for his second wife Constance of Castile, eldest daughter and heiress of Don Pedro, king of Castile and Leon. This lady chose Tutbury for her general residence, and those authors who wish to find an excuse for the institution of so truly barbarous a custom, attribute its origin to a wish on the part of the duke to divert his queen by a popular exhibition resembling in some measure the bull-fights of her native country. Of this custom Sir Oswald Mosley thus speaks, after taking the leading part of his account from Dr. Plott's 'History of Staffordshire:'

This custom (the bull-running) was thus celebrated on the Feast of the Assumption of the Virgin Mary. "All the minstrels within the honour came early on that day to the house of the bailiff of the manor of Tutbury, and from thence to the parish church in procession, the "king of the minstrels" for the year past walking between the steward and the bailiff of the manor, attended by the four stewards of the king of the minstrels, each with a white wand in his hand, and the rest of the company following in ranks of two and two together, with the music playing before them. After service was ended, they proceeded in the same order from the church to the castle-hall, where the said steward and bailiff took their seats, placing the king of the minstrels between them, whose duty it is to cause every minstrel dwelling within the honour who makes default to be presented and amerced. The court of the minstrels is then opened in the usual way, and proclamation made that every minstrel dwelling within the honour of Tutbury, in any of the counties of Stafford, Derby, Nottingham, Lancaster, or Warwick, should draw near and give his attendance; and that, if any man would be assigned of suit or plea, he should come in and be heard. Then all the musicians being called over by a court-roll, two juries are empanelled, one for Staffordshire and one for the other counties, whose names being delivered to the steward and called over, and appearing to be full juries, the foreman of each is sworn, and then the rest of them, in the manner usual in other courts. The steward then proceeds to charge them, first commending to their considerations the antiquity and excellence of all music, both on wind and stringed instruments; and the effect it has upon the passions, proving the same by various examples; how the use of it has always been allowed in praising and glorifying God, and skill in it esteemed so highly that it has always been ranked amongst the liberal arts, and admired in all civilized states; exhorting them, upon this account, to be very careful to make choice of such men to be officers amongst them as fear God, are of good life and conversation, and have knowledge and skill in the practice of this art. When the charge is ended, the jurors proceed to the election of the officers for the next year, the king being chosen out of the four stewards, two of them out of Staffordshire and two of them out of Derbyshire, three being chosen by the jurors, and the fourth by him who keeps the court and the deputy steward or clerk. The jurors then depart out of the court; and the steward with his assistants, and the king of the minstrels, in the mean time partake of a banquet, during which the other musicians play upon their several instruments; but as soon as the jurors return, they present, in the first place, the new king whom they have chosen; upon which the old king, rising from his seat, delivers to him his wand of office, and then drinks a cup of wine to his health and prosperity; in like manner the old stewards salute the new; and resign their offices to their successors. The election being thus concluded, the court rises, and all repair to another large room within the castle, where a plentiful dinner is prepared for them; after which the minstrels went anciently to the priory gate, but, after the dissolution, to a barn near the town, in expectation of the bull being turned loose for them. This bull was formerly found by the prior of Tutbury, but afterwards by the Duke of Devonshire, who enjoys the priory lands. His horns were sawed off, his ears cropped, his tail cut off to the stump, all his body smeared over with soap, and his nostrils blown full of pounded pepper. Whilst this inhuman preparation is in progress, the steward makes proclamation that all manner of persons should give way to the bull, no person coming nearer unto him than forty feet, except the minstrels, but that all should attend to their own safety, every one at his peril. Thus enraged to the utmost, the poor animal is then turned out, to be taken by the minstrels and none else within the county of Stafford, between the time of his being turned out and the setting of the sun on the same day. If the bull escapes, he remains the property of the person who gave it; but if any of the minstrels can take and lay hold of him, so as to cut off a small portion of hair, and bring the same to the market-cross in proof of their having taken him, the bull is then brought to the bailiff's house, where a collar and rope are fastened to him, by which he is brought to the bull-ring in the High Street, and there baited with dogs: after which the minstrels had him for their own, and might sell, kill, and divide him among themselves, as they thought fit."

Such an institution as this can only be considered as disgraceful to the founder, and as stamping with the indelible mark of barbarity that country which would tolerate its exercise. Yet, revolting as it is, it continued to be celebrated from about 1377 to 1778, when a tragical event, the death of a bull persecutor, gave the Duke of Devonshire immediate occasion for abolishing the practice altogether. The history presents, altogether, one of those singular contradictions which are often exhibited in the progress of a people towards civilization. The union of the refinement of the Minstrel's Court with the barbarity of bull-running, marks a state of knowledge and taste amongst a few, existing in the midst of gross general ignorance.

⁎ The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

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THE FOUR EVANGELISTS.



[Jordaens' 'Four Evangelists.']

OUR wood-cut is from a picture by Jordaens, of whom we had lately occasion to speak when presenting our readers with an engraving after his picture of a twelfth-day festival. The present picture is supposed to represent the four evangelists assembled for the purpose of conferring on the subjects of their writings. There are, however, several circumstances which have led some writers to doubt whether this was really the subject that the painter intended to portray, or whether the evangelists are at all the personages represented. In the

first place, no such meeting as that of which the painting would convey the idea is recorded to have taken place, and it is altogether improbable that it ever did—at least for such a purpose. The 'Gospels' appear to have been written at different times and in different places, and were not all addressed, in the first instance, to persons of the same language and modes of thought; they contain, besides, internal evidence that such a co-operation as is supposed could not have taken place. It is also objected that, if the four Evangelists be intended, the Apostle John is represented as a very young man, although, at any time when such an interview might have been possible, he could not have been less than forty years of age. The costume, also, of the figures is another circumstance against this supposition. But notwithstanding these anachronisms and violations of historical truth and probability, of which there are far more objectionable instances than this among the Dutch painters, we have little doubt that the common opinion correctly states the design of this painting.

The reader will not fail to notice the fine expression of the heads in this picture, and the efficient management of the light and shade, of which our wood-cut will give an idea; while the harmony of the colours in the original has always been mentioned with much praise.

The dimensions of the painting are three feet nine inches high, by three feet three inches in breadth.

MINERAL KINGDOM.—SECTION XXIX.

COPPER,—(*concluded.*)

THIS metal is met with in several countries of the Continent of Europe. The oldest copper-mine known was that of Rammelsberg, near Goslar, in Saxony, which was worked in the tenth century. There are several copper-mines in the Hartz mountains, and in Bohemia; but the supply of this metal in Germany is derived chiefly from the mines at Mansfeld in Thuringia. The ore is found in a bituminous marly stone, which forms a subordinate stratum, that is, one of the several series of strata which constitute the New Red Sandstone Formation (K in diagram I. No. 51); and it is called by the German miners *Kupferschiefer*, which means copper-slate. The mines were opened at the beginning of the thirteenth century, and during the three following centuries these and a few others of minor consideration in Germany, and the mines in Sweden, supplied the wants of all Europe. They are still worked, but the produce does not exceed 430 tons of copper annually. At the end of the seventeenth century copper-mines were worked in Hungary and Transylvania, and they continue to the present time to yield a considerable quantity. There are copper-mines in France, at St. Bel and Chessy in the Lyonnois, and in a few other places; but the whole produce of copper in France in the year 1832, according to a statement in the 'Annales des Mines,' was only 214,000 kilogrammes, or about 270 tons of pure copper.

Swedish copper has been long celebrated: the most famous mine is that of Fahlun, close to the town of the same name, about 180 miles north-west of Stockholm. How long a time has elapsed since it was first worked is unknown, but it began to enter into competition with the mine of Rammelsberg, in Saxony, in the twelfth century. It was visited by Dr. Clark in 1799, and by Dr. Thomson in 1812, both of whom have given a minute description of it. The ore forms veins in primary mica slate, and is a mixture of copper pyrites and iron pyrites, but is extremely poor; for according to Dr. Thomson, it does not yield more than one and a half per cent. of pure copper, a quantity so small as one would have thought would not have repaid the expense of working. About the year 1661, which was the time of its greatest prosperity, it yielded 2500 tons of copper annually; but at the time Dr. Clark visited it, it had fallen to from 400 to 500 tons. The mass of copper ore appears to have been in the form of an enormous cone with its point or apex downwards, and the excavation, which is funnel-shaped, is like the crater of a volcano. The sides of this crater being variously coloured by exhalations of sulphureous vapours from the mine, and by the action of the air on the minerals composing it, together with the volumes of smoke issuing from it, increase the resemblance, and, at the time of Dr. Clark's visit, it was not unlike the Solfatara in the neighbourhood of Vesuvius. The crater was principally caused by an accidental falling in of the ground. The base of the conical mass of ore lying nearest the surface was first worked; the galleries for extracting the ore were necessarily extensive, and the props for the support of the roofs of the different larger excavations or chambers, as the miners call them, consisting often of valuable ore, were left as slender and as few in number as possible. This, however, had been pushed too far, for they proved insufficient to support the superincumbent weight, and in the year 1666 the whole of the upper part of the mine fell in, leaving an open crater-shaped cavity 240 feet deep. From the bottom of this cavity various openings lead to the different galleries, most of which are very lofty, and to different places of further descent, of which some are 1200 feet from the surface. The smoke and vapours were caused by a considerable part of the mine being on fire. This was occasioned a few months previous to Dr. Clark's visit by some miners, who were attempting to steal ore, and being disturbed they left their torches behind them; these set fire to the timbers, which communicated to the pyrites, and it was found impossible to subdue the combustion, which rolled forth volumes of sulphureous vapours to such an extent, that this part of the mine was shut off from the rest. In the deepest recesses of the mine there were stables for horses, in which these animals were kept in total darkness for months together, without ever seeing the light of the sun. "We found them," says Dr. Clark, "quietly enjoying their fodder at the depth of 160 fathoms from their natural pastures, and they seemed to be in as good condition and as cheerful, though literally buried alive, as any of those which were kept above-ground, and some of them were fat and sleek." Speaking of the country adjoining these mines, he says, "What with the fumes from the mines, the smelting furnaces, and works for boiling the solutions of the sulphates of copper and iron, the whole atmosphere in and around Fahlun was of the most noxious kind, and intolerable to a stranger; yet it does not appear to affect the inhabitants, for they live to an advanced age. One might almost fancy that the people, from their copper-coloured countenances, had become to a certain degree themselves cupreous; for they may be considered as actually eating, drinking, and breathing copper. They have copper above, below, and on every side of them, and smoking heaps of pyrites impregnate every gale with their suffocating vapours, as if the curses denounced against the disobedient Israelites had here been made the means of industry, and the instruments of wealth and happiness. 'The heaven that is over thy head shall be brass, and the earth that is under thee shall be iron. The Lord shall make the rain of thy land powdered dust.'"

Besides the Fahlun mine there are copper-mines in East Gothland, and in several parts of Norway; but their produce is inconsiderable. The Russian empire possesses copper-mines of some importance in Siberia, on the eastern side of the Oural mountains, and also around Orenburg at the southern extremity of that chain. The ores are met with not only in primary slate, but in sandstones and clays of secondary formation, and often consist of the green and blue oxides of the metal.

Pallas describes a very rich mine in the lesser Altai chain of mountains. Villefosse estimates the total produce of the Russian copper-mines at something less than 4000 tons annually.

Armenia produces a large amount of copper, and as the ores are extremely rich, the produce of the mines would be very great if a sufficient supply of fuel could be obtained to smelt them, and if the resources of modern science were applied in the working of them. They are situated in a mountainous district a few days' journey to the south-west of the port of Trebizond on the southern shore of the Black Sea. Pysonnel states the produce of these mines, in the year 1762, to have been above 6500 tons, and they are said to be extremely productive at the present time. Mr. Hawkins informs us that they are scattered over the whole country which lies between Tocat and the Euphrates, and even extend beyond that river, along the chain of Anti-Taurus, a very considerable copper-mine being worked at the close of the last century near Argana, on the great road to Diarbekir. The produce of this mine is limited by the scarcity of fuel, which is fetched in the shape of charcoal from a distance of nearly one hundred miles. The copper which is here smelted under such apparent disadvantages is manufactured at Mosul, and in that state is floated down the Tigris to Bagdad and to Bussora. A great portion likewise of the Armenian copper has been manufactured for centuries at Erzerum, and transported down the Euphrates to the same great commercial cities, as well as by the usual land route into Persia; the consumption of this metal in the fabrication of copper utensils, which are of immemorial usage, being very great in every part of Asia. It is therefore to the country which is contiguous to these copper-mines, and more particularly to Armenia, that we must apply the passage of Ezekiel (xxvii. 13), as in the words of Michaelis,—"Tubal and Meshech traded with thee, and gave thee, in exchange for thy wares, slaves and utensils of copper."

Copper-mines are worked in Mexico, Chili, and Brazil, from which countries the produce is imported into Spain. Copper ore has lately been brought from Chili and Brazil to be smelted at Swansea. There are mines of this metal also in China and Japan, from whence it is brought to the islands of the Indian Archipelago. It has been wrought to a small extent in the island of Sumatra, and more recently in Borneo.

Uses of Copper.—Besides the well-known application of this metal in its pure state to an infinite variety of purposes, it is employed, in combination with other substances, in a great diversity of ways in the arts. Its most extensive uses in this way are, when alloyed with other metals, especially zinc, to form brass, in the proportion of three parts of copper to one of zinc; and tinsel, pinchbeck, and Dutch gold, are also compounds of copper and zinc in different proportions. When combined with from one to five per cent. of tin it becomes harder, and this is the usual composition of the very ancient copper tools and weapons, before iron and steel came into common use: the instruments used by the surgeons of antiquity were made of this alloy. With a larger proportion of tin and a little zinc it forms bronze and bell metal, and also the metal of which brass cannons are made. When alloyed with nearly half its weight of tin, and with a small admixture of arsenic, brass, and silver, it forms an extremely hard compound capable of receiving a high polish, which is used for the reflectors of telescopes. In our gold coins thirty-eight grains of pure copper are added to every ounce of pure gold, the effect of which is to make the gold harder, and therefore less liable to wear. This is what is called standard gold, and in larger proportion it forms the gold commonly used in jewellery. Standard silver contains one-twelfth part of copper, and it has also the effect of rendering the silver harder and more workable.

Blue vitriol, or Roman vitriol, is a compound of oxide of copper and sulphuric acid, or vitriolic acid, as it used to be called. Verdigris is a compound of oxide of copper with acetous acid, or vinegar, and the blue paint called verditer is a combination of oxide of copper, carbonic acid, water, and lime.

ANECDOTES OF THE ENGLISH LANGUAGE.

There is a curious work, by Dr. Samuel Pegge, published about thirty years ago, consisting of a defence of the dialect of London and its environs. The author shows that the great majority of what are called "cockneyisms" are not, as is commonly supposed, corruptions of the language, but were formerly in use among good writers, and have been retained by the Londoners after the literary and the refined had given them up.

Thus *regiment*, used in the sense of *regimen*, is a good old English word; and there are books extant, as Mr. Pegge observes, with the titles of 'The Regiment of Health,' 'The Regiment against the Pestilence,' &c. We often, in London, hear *contrāry* for *cŏntrary*; yet though we should not recommend any of our readers to adopt the first method of pronouncing this word, it may be defended by the authority of Shakspeare, who says,—

> "And themselves banding in contrāry parts."
> 'Henry IV. Part I.' Act iii. Sc. 1.

In Milton, too, we find—

> "And with contrāry blast proclaims most deeds."
> 'Samson Agonistes,' line 971.

The author observes that *an-otomy* is used for a skeleton, the *an* in *anatomy* having been mistaken for the article *an*. Perhaps this may be so, but in our old writers, 'an anatomy' is continually used to mean a skeleton. But passing over these lesser offences, Mr. Pegge comes to the consideration of the more grievous offences "with which the Londoners are so heavily accused by the *beau-monde* and the scholastic part of mankind. And first of the double negative. A cockney, for example, will say, 'I don't know nothing about it.'

"This is a luxuriance of no modern date among the Cockneys; but it is not of their own manufacture, for there is evidence enough in the history of our language, drawn from the old school, to show that this mode of speech—this accumulation of negatives—is no new-fangled tautology. One negative is now accepted by us and reputed as good as a thousand. The present Cockneys think otherwise; and so did the ancestors of us all. Taking the language of France for a moment as a model, a Frenchman answers your question negatively by—'Je *ne* sais *pas*;' and the Londoner, in the same phraseology, says—'I *don't* know *nothing* about it.' Now, if the abundant use of negatives be esteemed an elegance in the French language, the Cockney will say—Why not in English? And the more the better. I cannot help recounting a case in point, where a cluster of negatives is said to have been disgorged by a citizen, who, having mislaid his hat at a tavern, inquired with much vociferation—'If *nobody* had seen *nothing* of *never* a hat *no-wheres*?' But, to be more serious. Here are but three out of four that are redundant: I will now then produce the same superabundance, not indeed from an act of the whole legislative body of the kingdom, though from regal authority. In a proclamation of King Henry V. for the apprehension of Sir John Oldcastle, on account of his contumacious behaviour in not accepting the terms before tendered to him, are these words:—'Be it knowne as

Sire John Oldcastell refuse, *nor* will *not* receave, *nor* sue to have *none* of the graces,' &c.

"Though we now exclude the double negative, yet we find it very common among writers at different former periods, where the use of it was carried as far as the ear could possibly bear. An instance or two shall suffice. Thus Chaucer:

> 'So lowly, *ne* so truily you serve,
> *Ne'* will *none* of 'hem, as I."
> 'Troil. and Cres.' lib. v.

So also Shakspeare:

> ——————" a sudden day of joy,
> That thou expect'st *not, nor* I look'd *not* for.'
> 'Romeo and Juliet,' Act iv., Sc. 1.

Examples occur so frequently in Shakspeare that it would be troublesome to recount them. '*No, nor* I think I *never* shall,' is an expression used by Roger Ascham. ('Toxophilus,' Bennett's Edit., p. 123.) He was a Yorkshireman, and there I have myself heard this similar language:—'*No*, I shall *not* do *no* such thing.' "—pp. 79, 81.

The author then gives numerous other instances of bad English which may be defended by the best authorities:—thus, *worser* is found in Shakspeare, *lesser* in Addison, and *most basest* in Sir Thomas More. One of the most curious of these embalmings of old words in modern vulgarisms consists in the use of *ax* for *ask*: for "Margaret, Countess of Richmond and Derby, in a letter to her son, Henry VII., concludes with—'As herty blessings as y can *axe* of God.' In the next reign, Dr. John Clerk writes to Cardinal Wolsey, and tells him that—'The king *axed* after your Grace's welfare.' "

Dr. Skinner, who died in 1667, mentions in his 'Etymologicon' that *ask* is pronounced by many persons *axe*, and does not censure it as a vulgarism. The fact is, that the modern word has been formed from the ancient one simply by what grammarians call a "metathesis," or transposition of letters; for *ax*, or *aks* becomes *ask* by the *k* and *s* changing places. Mr. Pegge thinks that, in the same way, *tax* and *task* are the same word, and supports this opinion by some very pertinent quotations from old writers. Thus, Holinshed says—"There was a new and strange subsidie, or *taske*, granted to be levied for the king's use;" and, in Shakspeare, Hotspur reproaches Henry IV. with having

> ——————" *task'd* the whole state."
> 'Henry IV., Part I.' Act iv., Sc. 3.

Our author has some interesting observations, by way of commentary, on an expression which, he says, is very common among Cockneys. "Pray, Miss, who *learns* you to play upon the *musick?*" We shall pass over what he says on *learns* used for *teaches*, as many readers are probably familiar with the fact that, two centuries since, *learn* was employed in this sense by the most eminent writers. Mr. Pegge explains the latter part of the phrase in the following manner. He thinks that "the musick" stands for "the musicks;" and says that, when semitones were introduced, the natural and artificial keys became, as it were, two instruments, and, when spoken of together, were styled "the musicks." Thus, when the Cockneys talk of "the musick," they have merely dropped the final *s*, just as, formerly, the organ was called the organs, or a pair of organs. In the 'Diary' of Mr. Alleyne, the founder of Dulwich College, is an article where he says that, in the year 1618, he paid 8*l*. for a pair of organs. Mr. Pegge goes on to say—"I do not know how it has happened, Sir, but the letter *s* seems to have been peculiarly unfortunate, and from its sibilance has given offence in various languages. In French pronunciation it is totally sunk as a final letter; and the number of any word is to be governed by the article, the verb, or the context. In the middle of words it is quiescent nine times out of ten, though, to the eye, it has the compliment of being frequently represented by a circumflex. Mr. Pasquier, who died A.D. 1615, at the age of eighty-seven, tells us that, in the French word *honest* (now pronounced *honnête*), the letter *s* was sounded when he was a young man; but he lived to hear the *s*, with its preceding vowel, sunk into a long *e*, to the total abolition of the letter *s*."—p. 148.

If a few more *esses* could be extirpated from our own language, we should be no great losers, but the spirit of our language is rather to add to them. Such names as Matthews, Mills, &c., show the tendency of the Saxon *s* to obtrude itself everywhere; and we are quite sure that our excellent author must have been annoyed a thousand times by hearing his name converted into *Pegges*. The French method of hushing this hissing letter is curious enough. The later Attic dialect frequently substituted a *t* for it, thus *tessares* (signifying four) was changed into *tettares*. The sensibility of Attic ears seems to have been extreme. Euripides having written a line in his 'Medea' containing six sigmas (*esses*), this unfortunate verse became the subject of everlasting gibes and parodies: thus one of the comic poets says,—"I have saved thee from the sigmas of Euripides."

Shall us? This gross blunder is to be found in Shakspeare. In the 'Winter's Tale,' (Act i., Scene 2,) Hermione says,—"Shall us attend you?"

In discussing the terms *a-dry*, *a-hungry*, &c., Mr. Pegge leans to the opinion of Bishop Lowth, who believes the *a* in such cases to be merely the word *on* "a little disguised by familiar use and quick pronunciation." In this section our author tells an entertaining anecdote:—"Such was the ridiculous attachment to long and high-sounding names and titles in Spain, that when an epidemical sickness raged in London in the reign of Queen Elizabeth, the Spanish Ambassador (who I suppose enjoyed a sesquipedal name) was consigned, for safety, to the charge of Sir John *Cutts*, at his seat in Cambridgeshire. The Don, upon the occasion, expressed some dissatisfaction, feeling himself disparaged at being placed with a person whose name was so *short*. An amnesty, however, was soon granted by the Spaniard; for my author says, 'that what the knight lacked in length of name, he made up in the largeness of his entertainment.' "—Fuller's 'Worthies,' p. 176. Cambridgeshire.

We must content ourselves with two more Cockneyisms.

A few while. "Stay a few while," a Londoner says, "and I will go with you." On this expression our author observes, that *while* was once the respectable Saxon substantive *hwile*, denoting an indefinite interval of time, and therefore the phrase ought to be "a few whiles." He remarks, that "similar ellipses with regard to the consonant *s*, at the termination of words, occur frequently (though in a different situation) in various parts of the north of England; as in Derbyshire for example, the common people seldom fail to omit the sign of the genitive case, and instead of Mr. Johnson's horse, or Mr. Thompson's cow, will say Mr. Johnson horse, and Mr. Thompson cow. Do not the French take the same liberty by dropping the sign in the genitive case, as in *Mappe-Monde*, *Maison-Dieu*, *Chapeau-Bras*, &c.; and again in law language, *Ventre sa Mere?*" He afterwards says, "I cannot help observing one application of the word *few*, peculiar to the northern counties, for which there seems to be no justifiable reason; for, when speaking of *broth*, the common people always say—'Will you have a *few* broth?' and in commending the *broth*, will add—'*They* are very good.' This is also an appropriation so rigidly confined to *broth*, that they do not say 'a few *ale*,'—

'a few *punch*,'—nor 'a few *milk*,'—'a few *furmenty*,'—nor a few of any other liquid. I would rather suppose that they hereby mean elliptically *a few spoonsful of broth*; for *broth* cannot be considered as one of those hermaphroditical words which are both singular and plural, such as *sheep* and *deer*, because we never hear of '*a broth*' in an independent and abstracted sense."—p. 221.

Gone dead. "Dr. Johnson was aware of the present vulgar use of the word 'gone' among the Cockneys, when he jocularly tells Mrs. Thrale, in one of his letters from Lichfield, 'that Brill, Miss ——'s old dog, is *gone* deaf.' "—Letter CXIV.

These anecdotes, besides the philological instruction to be derived from them, may serve to show how great has been the progress of knowledge within the present century; for many of the blunders which Mr. Pegge attributes to respectable citizens would now be scouted by every one who made the smallest pretensions to education.

ANSWERS OF THE DEAF AND DUMB PUPILS AT THE EXETER INSTITUTION.

If any of our readers were to endeavour to devise for themselves some process by which they would communicate any abstract ideas to those who have been deaf, and therefore dumb, from birth or early infancy, they would soon perceive by what difficulties such an attempt is surrounded; and, unless they had some previous knowledge of the process actually employed, they would be disposed to consider success in such an undertaking perfectly hopeless. But it is one most interesting circumstance of the state to which civilization has brought us, that no man is, or need be, left utterly desolate by any physical deprivation to which our nature is exposed. The blind can read, and the deaf and dumb can acquire and express ideas the most abstract and the most complex. It is not our present intention to enter into the details of the process by which this is effected; but we are enabled to communicate some of the results obtained by the process actually employed.

At the Exeter Institution it is customary for the masters to ask their pupils the meanings of words; and their answers are written down upon slates which are kept hanging up in the school-room for one day subsequently; during which the scholars have access to them, and often transcribe their own answers and those of the other students. From a book so kept by one of these scholars, the following extracts have been made, consisting of such answers as appear most original or striking. It will be seen that many of the answers are remarkable in themselves; and we have retained some which may not appear so at first, but which will be felt interesting, as indicating the degree of success with which an abstract idea had been conveyed to the pupil, and of the manner in which his mind entertained it. The several answers will be found to indicate the various degrees of progress which the pupils had made, and the measure of aptitude they respectively possessed.

What is Revenge?—Revenge is murder in the heart: it is cruel without necessity.—Revenge is when a boy will not give me some cakes: I will fix it in my mind, and I will not give him cakes. God hates revenge.—Revenge has a bad heart.—Revenge is hatred with cruelty: if my master is displeased with me, and I keep it in memory and hurt his dog, it is revenge.

What is Anger?—Anger is great displeasure. Masters are angry with careless servants, because they break pretty plates, cups, and saucers.—Anger has troubled thoughts.—Anger has a red face and fierce eyes.—Anger is a bad feeling of the heart.—Anger has violent thoughts; anger will not reason; anger is quick and impatient; anger is rage: a man's cook spoiled his dinner, and he was angry and told his servant to go away from his kitchen.

What is Despair?—Despair is the expectation of a certain evil: the sailors despair when the ship breaks and the large waves fall on them.—Despair has no hope. Despair has a pale face: the great murderer despairs when the judge says he must be hanged.—Despair is fear without hope.—Despair is darkness in the mind.—Despair does not love play.—Despair is idle.—Despair is wildness in the mind.—Despair has no pretty home.

What is Hope?—Hope is desire joined with belief.—Hope is a mental looking towards a happy state with a desire to attain it.—Hope is the soul's sunshine; its support and comfort under toil and hardship.—Hope is the staff of life; it cheers us in affliction, and supports us in our journey through life. If we meet with disappointment we look for better days, and if we are poor and needy, hope tells us to pursue industry and improvement, and we shall obtain sufficient to support us in this world.

What is the Soul?—The soul is the conscious being within me which directs my actions, and restrains or inclines me to whatever I do.—The soul is that active principle within me which remembers, distinguishes, and reasons.—The soul is the life of my body: when my soul leaves my body, my body will die. It cannot be caught nor seen. God can see it, and God talks to my soul: it is not deaf, it is not dumb, it hears God, and it will sing to God when I go to heaven.

What is Eternity?—Eternity is duration without beginning and without end.

What is the Difference between Immortality and Eternity?—That immortality extends only to endless life in future, and eternity embraces duration without beginning or end.

What was your condition before Instruction?—I was ignorant, and knew not right from wrong. I was unacquainted with language and every other accomplishment. I had no idea of a Supreme Being or of a hereafter.—My present condition is that of a rational being: I know my duty to God and man: I know the reward of virtue and the punishment of vice. My former condition was unhappy, lonely, and miserable: I could not reason: I did not know anything of religion.

What is Knowledge?—Knowledge is the subject of thoughts, memory, judgment, and understanding.—Knowledge is science. Things that are seen and lectured upon expand the mind. When Mr. Bingham told me that God created all things, that he was invisible, but could see in the dark as well as in the light, I thought he was joking. He showed me an old watch, and took it to pieces, and pointed out the course of its moving by the fusee being wound up, which tightened the spring. He then took a blade of grass, a leaf of a tree, an insect, &c., and showed me there was no spring, but several fibres, which contained sap and nourished the leaf. After showing and explaining many other things, he asked me if man could make a blade of grass, &c. And I said, No. He then told me that God made all things; and I perceived by my mind that man's power and capacity was nothing compared with God's.

What is Science?—Science is knowledge obtained by what is made visible to the mind.—Science is knowledge founded on demonstration or certainty.

What is Art?—Art is whatever is accomplished or produced by the skill of man, as distinguished from natural causes.—Art is produced by the invention of man: it is the skill of the mind and the power of the body.

What was the state of your mind before receiving Instruction?—My mind, previous to instruction, was like a dark room filled with many good and beautiful things; but for want of a light they were hid.—My mind was like ore that requires the strong heat of a furnace to separate it from the dross.—The state of my mind was like the earth without the sun.

What is the difference between Reason and Judgment?—Reason is the torch of the mind, and judgment is the guide.

What is Economy?—Economy means taking care of money; that is, not spending it upon trifles, or things which are of no use; and also in taking care of my clothes;—and also in trying to make the money I have last a long time.—Economy means keeping money, and never buying any pretty thing that is not useful. If I do not keep my clothes clean, and if I do not brush them, I am not economical.

What is Virtue? - Virtue is pure motives and doings: it is good because it comes from God.—Virtue is like an angel.

Who is God? - God is the life and preserver of all things. The sun rises and sets and gives us light and heat, because he is in the sun, and he commands it. The wind comes, and he is in the wind; the rain comes, and he is in the rain. He is the judge of the world: he will punish the wicked, but he will give life and happiness to the good,—God is our Almighty Father: he made this large world, and the trees, beasts, and mankind. We worship him because he can give us all good things; and we love him.—God is the incomprehensible being that is above us, and around us, and that sees us always. He has no fault. He will never decay. He sends us health, and food, and covering for our bodies; he sends us wisdom and joy for our souls. I see that God is most good and merciful.—God is a most holy being, and he is omnipotent. He sees the past, the now, and the future. He cannot mistake. He does not doubt.

What is Memory?—I came from Dawlish: I can draw in my mind its houses, the sea-shore, my mother's house. I can see the town of Dawlish in my mind: this is memory.—Memory is the portrait-gallery of the past. I can look upon my school-fellows and my home; I can remember when I was a little boy; but I cannot see these things with the eyes of my body: they are in my memory.—Memory is a mental cabinet, that receives my ideas and holds my thoughts.—Memory is like a drawing-master: it shows me the forms of my parents; memory paints in my mind what I wish to keep long.—Memory is the consciousness of what is gone, or was done yesterday, or some time ago.

What is an Idea?—An idea is a figure in the mind.—An idea is an image seen by the mind.

What is Friendship?—Friendship is love without its fickleness, and produces affection without distrust. It has respect to the good qualities of the mind and heart, and is not formed upon common or extrinsic circumstances.—Friendship is progressive kindness of the heart between persons of excellence.

What is Contentment?—Contentment is enjoyment without anxiety, and satisfaction without desire. It does not look with envy at the greatness of another, nor seek to enlarge possessions by ambition or meanness.—Contentment is an even state of mind that asks for no more than what it possesses.

What is Gentleness?—Gentleness is the disposition of virtue. It is mild and soft, and does not oppose others from a desire to differ or quarrel. It is complying, but not mean: it bows to the will of others, but does not approve their errors.—Gentleness is an innate goodness of heart, that feels willing to oblige others.—Gentleness is a natural inclination of the mind to be kind to all. A gentle disposition will bear patiently all the ill-will of another person without being put out of temper.

AN ENGLISHMAN'S VALUATION OF HIS LIFE.

At the time when party spirit and active hostilities were raging in Belgium at the close of the fifteenth century, certain soldiers of the Spanish army happened to be taken prisoners by the Dutch; and by way of martial retaliation for a similar act of cruelty practised upon some Dutch prisoners by the Spaniards, all of them were ordered to be hanged. Humanity, however, suggested that it was unnecessary to put the whole party to death; and of the twenty-four who were taken, eight only were eventually destined for the halter. For the purpose of ascertaining who were to be the sufferers, twenty-four lots were made, eight of which had the figure of a gibbet described upon them, and the remaining sixteen were in blank. The whole twenty-four lots being then shaken together and cast promiscuously into a helmet, each prisoner was ordered to draw out one; those who drew a blank lot were immediately discharged, but those who drew the fatal symbol were hanged on the spot. The conduct of those who were compelled to set their lives upon so [illegible] a cast, varied according to the nerve and temperament of each; but terror and lamentations prevailed. The most conspicuous object was a Spaniard, who could scarcely be urged to the helmet, and whose tears and exclamations excited both ridicule and compassion. Among the captives was an Englishman, who seemed wholly unmoved at his danger, and quietly looked on until his turn arrived; and when called upon by the Dutch officer, walked up to the helmet with the utmost unconcern, and without faltering or changing a feature, drew forth his lot,—which was a blank. Thus favoured by fortune, and himself free from danger, he told the trembling Spaniard, who still held his hand in the helmet dreading to draw forth his fate, that for ten crowns of gold he was [illegible] to draw his lot for him, and stand to the consequence. The Spaniard joyfully agreed, and the Englishman, having received the money, coolly requested the Dutch officer to allow him to fulfil his part of the contract by drawing the Spaniard's lot; and permission being given, he drew again, and again was fortunate. "A strange caprice of fortune," says the historian, "which could thus favour a man whose cheap estimate of his life made him unworthy, not only of this double escape, but even of a single lucky cast!"

This story is taken from a description of England in the reign of James I., contained in a satirical Latin work written by a Scotchman named John Barclay, under the assumed denomination of Euphormio Lusinius.

Memory of the Bullfinch.—Tame Bullfinches have been known (says Buffon) to escape from the aviary, and live at liberty in the woods for a whole year, then to recollect the voice of the person who had reared them, and return to her, never more to leave her. Others have been known, which, when forced to leave their first master, have died of grief. These birds remember very well, and often too well, any one who has injured them. One of them having been thrown down with its cage, by some of the lowest order of people, did not seem at first much disturbed by it, but afterwards it would fall into convulsions as soon as it saw any shabbily dressed person, and it died in one of these fits eight months after its first accident.—*Bechstein's Cage Birds.*

THE SABLE.

This animal, which is so much valued for its fur, belongs to the same genus with the common marten, which it greatly resembles in form, and it is nearly of the same size. They are of that class of animals which are called *vermiform*, on account of the great length of their bodies and shortness of their legs, which enables them to pass through very small apertures. The head of the sable is small and oval, with short round ears and long whiskers. The feet are large, each having five toes furnished with white claws, which are short, hooked, and very hard pointed. This animal is distinguished from others of the same genus by having the fur extended to the extremities of the toes, and even under them. The tail is somewhat bushy: it is five inches long, but with the hair it measures eight inches. The body is nearly of equal diameter throughout; and, in proper season, is thickly covered with hair, the colour of which is black at top and cinerous at the bottom: the throat is cinerous, sometimes white, yellow, or spotted, and the edges of the ears are yellowish. Sometimes the hair has a tawny cast, for in spring, after shedding the coat, the colour varies. The length of the animal is about eighteen inches exclusive of the tail.

The chief residence of the sable is in Asia, beginning at the Uralian chain, and becoming more and more plentiful in the progress eastward, and more valuable in the advance to the north. None are found to the north-east of the Anadir, nor in any parts destitute of trees. They prefer vast forests, especially those of fir, in which the furs of greatest beauty are found. They are frequent in Kamtschatka, and are met with in the Kurile Isles. Their proper limit extends from 50° to 58° north latitude.

The sable lives in holes in the earth, or beneath the roots of trees; sometimes, like the marten, forming nests in the trees, and skipping with great agility from one to another. It is very lively, and much in motion

during the night, but generally sleeps in the day. It goes abroad to seek its prey during the night, if the weather be clear and fine; but if otherwise, it retires to sleep. It is very courageous, and will attack and destroy animals of larger size than itself. Weasels, squirrels, and hares, form its usual prey in summer; in winter it is said to feed on birds, particularly partridges; it will also eat fruit, especially that of the service-tree, and it is, indeed, stated that fruit and berries form the principal part of its subsistence in autumn. During this season the furs are at the worst, their vegetable diet causing their skins to *itch*, when they rub off their fur against the trees. When very unsuccessful in its own researches for food, and therefore pressed by hunger, the sable follows bears, gluttons, and wolves, as the jackal does the lion, to partake of the overplus of their meals.

The females, towards the end of March or the beginning of April, produce from three to five young, which they suckle about four or five weeks. It seems that the sable is capable of being rendered very docile. Steller relates an instance of one that was domesticated in the palace of the Archbishop of Tobolsk, which used to wander about the city and visit the neighbours.

The fur of this animal is so much valued, that the best skins, although not more than four inches broad, are said to average the price of from 12*l.* to 15*l.*, and the general price varies from 1*l.* to 10*l.* A fur merchant of London, in a communication printed in Macculloch's 'Commercial Dictionary,' after speaking of the great fluctuations of price in the different articles of the fur trade, says,—"Among the furs that *always* rank very high (though, like all the rest, they change in value), may be specified the Siberian sable, and the black and silver fox. These articles are at all times comparatively very scarce, and command high prices." The darkest furs are the most esteemed. The colour and quality of the furs are very liable to vary, not only in different climates, but in the same individual at different seasons. It is from November to February that the fur is darkest, and in the best condition; and the descriptions given of the animal by naturalists generally apply to the state in which it then appears.

The finer descriptions of sable-skins are sold without the bellies, which have a fur of lighter hue than the rest of the body; but, in the coarser sorts, the bellies are suffered to remain. The very finest sable-skins are sold in pairs perfectly similar, and thus paired they bring a better price than single ones of equal goodness, as the Russians want such pairs for facing caps, cloaks, tippets, &c. The legs or feet of sables are seldom sold separately. White sables are rare, and are not objects of merchandise, but bought only as curiosities: some are yellowish, and are bleached in the spring on the snow. The bellies of sables, which are sold in pairs, are about two fingers' breadth, and are, like the skins, tied together in parcels of forty each. The price of one of these parcels varies from one to two pounds sterling. Tails are sold by the hundred. The very best skins must have their tails, but ordinary ones are often cropped: a hundred sell for from four to eight pounds.

The hair of the same skins differs in length and quality. The longer hair is silky, and the shorter, or under hair, is woolly. The more a skin has of the former, and the less of the latter, the colour being at the same time good, the more precious it is: the very best skins have scarcely any other than the long silky hair. Besides various other circumstances regarding the furs, the furriers pay attention to the size, and, other things being equal, always prefer the largest skins, and those that have the best gloss, to others. The size depends upon the animal being a male or female, the latter being always the smallest. The gloss disappears in old furs; the fresh ones have what furriers call a "*bloomy* appearance;" the old ones are said to have "done blooming." In consequence of the vast difference of price in the furs of the same species of animal, the most ingenious impositions are practised, by dressing and dyeing, to make the inferior qualities look like the superior. The dyed sables, however, in general lose their gloss, and become less uniform, whether the lower hairs have taken the dye or not; and the hairs are mostly twisted and crisp, and not so straight as in a naturally good fur. Some fumigate the skins to make them look blacker, but the smell and the crisped condition of the long hairs often betray the imposition; and it is said that both the dyeing and fumigation may be detected by rubbing the fur with a fine linen cloth, which always becomes black in such cases. Both the Russians and Chinese are highly imitative people, and particularly excel in their respective processes of making a bad article appear like a good one of the same class. The Russians export yearly, and sell for the true winter sables, a vast number of summer sables, which have been prepared with so much art that it is often extremely difficult for the most experienced persons in the fur-trade to perceive the fraud. In this kind of deception the Chinese are said to surpass even the Russians; for the dye not only lasts, which is more than the Russians can effect, but the fur retains its gloss; so that there is no other way of detecting the imposition but by the somewhat crisped state of the hairs. This is the reason that all the furs which are of the best kind, either in pairs or separate, are carried to Russia; the rest go to China. The very best sables come from the environs of Nertchitsk and Yakutsk; and those that come from the neighbourhood of the river Ud are particularly valuable.

It necessarily results from the costliness of the fur, that men have not been deterred by any ordinary difficulties in the pursuit of the animal which affords it. Indeed, there is no article of luxury to obtain which more distress is endured, or more peril incurred, than in the chase of this animal, which is carried on in the depth of winter,—among mountains covered with ice, and in the deepest snows,—in the coldest and most desolate regions to which man has yet penetrated. The hunters are often overcome by the combined operation of fatigue, cold, and hunger, and perish in those remote solitudes. Formerly, in the Russian Empire, the hunting of the sables was a task imposed upon the exiles who were banished to Siberia. As that country became more populous, the animals retired into the remote forests and mountains; and it was the further pursuit of them which led to the discovery of Eastern Siberia. We suppose that an account of the manner in which the hunting of the sable is at present conducted in that country will not be without interest to our readers.

The sable-hunters form themselves into parties of from five to forty each. The last subdivides into smaller parties, each of which has a leader; but there is one person who directs and controls the whole. Each party is furnished with a small covered boat, laden with provisions; they are also furnished with a vessel to bake their bread in, and there is a dog and a net to every two men. Each party is provided with an interpreter for the country which it intends to penetrate. Every party then sets out in the direction prescribed by the leader. They go against the stream of the rivers, drawing their boats up until they arrive in the hunting country. There they stop, build themselves huts, and remain until the rivers are frozen and the season commences. Before they begin the chase their leader assembles them together, when they join in prayer to God for success and safety, and afterwards separate. The first sable each party takes is called "God's sable," and is dedicated to the church.

The small parties then penetrate into the woods, and

mark the trees as they advance that they may know their way back; and when arrived in the hunting quarters, they form huts of trees, and bank up the snow around them. Near these they lay their traps; then they advance farther, and lay more traps; still building new huts in every quarter, and returning successively to every old one, to visit the traps, and take out the game, and skin it, which none but the chief of the party must do. The traps are a sort of pit-falls, with a loose board placed over it, baited with fish or flesh. When the sables become scarce, the hunters trace them in the new-fallen snow to their retreats, placing their nets at the entrance, and sometimes have to remain waiting two or three days on the watch for the appearance of the animal. Another way of taking the sable is by fixing a piece of timber from tree to tree horizontally; near one end of this a bait is placed. Over this piece of wood another is suspended obliquely, one end slightly resting on a post, and a rod extending from it to a noose to which the bait is fastened. As soon as the sable seizes the meat, the upper timber falls and kills him.

During this time the hunters are supplied with provisions by persons who are employed to bring it on sledges from places on the route where they are obliged to form magazines. The hunters are sometimes reduced to dreadful extremities from the failure of their provisions, and sometimes they perish. The following passage from the 'Travels of Bell of Antermony,' (vol. i., p. 230,) published in 1753, besides describing another mode of taking the sable, mentions a curious process resorted to for suppressing the cravings of appetite. "The sables are not caught in the same manner as other animals. The fur is so tender that the least mark of an arrow, or ruffling of the hair, spoils the sale of the skin. When a hunter finds the track of a sable in the snow, he follows it perhaps for two or three days, till the poor animal, quite tired, takes refuge in some small tree,—for it can climb like a cat; the hunter then spreads his net around the tree, and makes a fire: the sable, unable to endure the smoke, immediately descends, and is caught in the net. I have been told by some of these hunters that, when pinched with hunger in some of these long chaces, they take two thin boards, one of which they apply to the pit of the stomach, and the other to the back, opposite to it; the extremities of these boards are tied with cords, which are drawn tighter by degrees, and prevent their feeling the cravings of hunger."

When the season is concluded, the hunters reassemble,—report to their leader the number of sables each has taken,—make complaints of offenders against their regulations,—punish delinquents, and divide the spoil. They then continue at head-quarters until the rivers are clear of ice, when they return home, and deliver to every church the dedicated furs.

What is commonly called the American sable is now known to be a distinct species. It is a larger animal than the true sable of Siberia; it is of a glossy, silver, black colour, which is paler towards the fore-quarters, and slightly red about the nose; the tail and legs are velvet black, the hair silky, and the fur very beautiful. The hunters call it the fisher, but improperly, as it by no means frequents the water, but its habits are almost entirely similar to those of the animal to which our attention is more particularly limited. As the skins of these animals are not so valuable as those of the true sable, the American hunter, as represented in our engraving, does not hesitate to shoot them.



[Sable Hunting in North America.]

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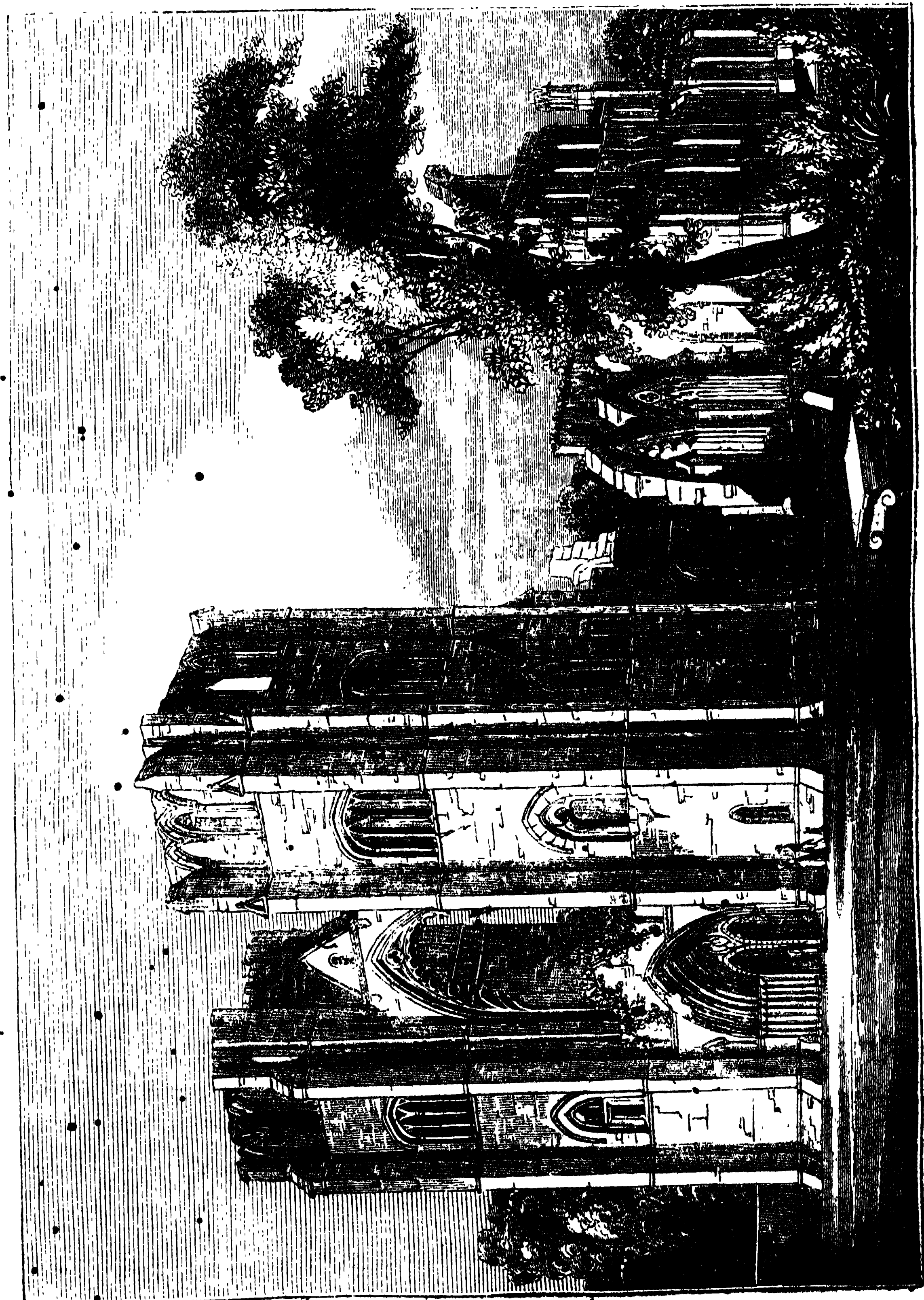
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ELGIN CATHEDRAL.



ELGIN Cathedral is considered to be one of the most magnificent ruins in Great Britain. It is situated at the east end of the burgh, which is commonly called the College of Elgin, and is within twenty or thirty yards of the river Lossie. In the commencement of the thirteenth century, Pope Honorius, in consequence of a request which had been previously made to him to that effect, instructed Bishop Andrew Moray to build a cathedral at Spynie, a place about a mile and a half northward from the site of Elgin Cathedral. The bishop was not pleased with the situation of Spynie for a cathedral; he consequently petitioned his Holiness to be allowed to build it at Elgin, urging, as the principal reason why he preferred the latter situation, that the distance of Spynie from Elgin, where all provisions for that part of the country were to be had, would, if the cathedral were built there, have the effect of diverting the canons from their sacred functions, in consequence of the inconvenience they would be put to, and the time that would be lost in getting their provisions. The pope complied with the bishop's request, and by his bull, dated the 4th of April, 1224, granted full power to erect a cathedral at the east end of Elgin, which should be declared the Cathedral Church of the diocese of Moray in all time coming. The foundation stone of the original building (for, as will be afterwards seen, it was destroyed and rebuilt) was laid on the 17th of July in the same year by the bishop.

About 160 years after the foundation, the building was completely destroyed. It was burned to the ground by a personage well known both in the page of history and in the traditionary legends of Scotland. The circumstances under which its destruction took place were as follow. During the time of Bishop Alexander Barr, Lord Badenoch (son of Robert the Second of Scotland), better known by the name of "The Wolf of Badenoch," in consequence of the character which, by his ferocious conduct and prowling habits, he had earned for himself, was excommunicated by the Church in consequence of his having seized on the bishop's lands in Badenoch, and his expressed determination to keep forcible possession of them. Determined to revenge himself on those of his enemies at whose instance this ecclesiastical punishment had been inflicted on him, he, in the summer of 1390, burned the whole town of Forres*, together with the manse and the choir of the church. In the course of next month he likewise burned to ashes the town of Elgin, the Church of St. Giles, the hospital of Maison Dieu, the Cathedral Church, and eighteen houses of the canons and chaplains in the College, then, as now, forming the suburbs of Elgin.

The Wolf of Badenoch, however, was not suffered to commit these extensive depredations on civil and ecclesiastical property with impunity. Proceedings were forthwith instituted against him, and he was obliged to make suitable reparation; which having done, and having at the same time publicly expressed his penitence, he received absolution at the hands of Walter Trail, Bishop of St. Andrews, in Blackfriars Church at Perth.

The rebuilding of the Cathedral Church was commenced with all possible expedition, under the superintendence of Bishop Barr,—every parish in the diocese paying a subsidy, and all the canons contributing for the purpose. In consequence, however, of the commotions of the times, a considerable time elapsed before the building was completed. But in order that it might be protracted as little as possible, the Chapter met, in 1414, on the death of Bishop Innes, and bound themselves by a solemn oath, that whoever should be elected bishop should appropriate one-third of his revenue for the purpose of advancing the building of the cathedral. How long it took to complete it is not known, but it is supposed to have been about twenty years.

The style of the building, like that of all other great edifices of the period, was what is called the florid Gothic, without the admixture of any other style in any part of the structure. The cathedral stood due east and west, and was built in the form of a cross. The length of the building was 264 feet, the breadth 35 feet, and the length of the transept 114 feet. There were five great towers, two of which were at the west end, one in the middle, and two at the east end. The two west towers, in so far as the stone-work is concerned, are still entire, and measure 84 feet each in height. What the height of the spires of these towers was cannot now be ascertained. It is conjectured by some of those authors who have written about Elgin, that they were of wood, and that they must consequently have fallen down long since. The centre tower must have been the grandest; for, including the spire, it measured 198 feet in height, and lasted long after the others had been reduced to the state in which they now stand. The two towers at the east end are still entire as far as relates to the stone work, but they were not nearly so large as the others. The grand entry, which was a very rich specimen of architecture, was between the two towers at the west-end. The Rev. Mr. Shaw, in a communication to his friend Mr. Pennant, the tourist, thus describes it:—"This gate is a concave arch, 24 feet broad in base, and 24 in height, and terminating in a sharp angle. On each side of the valves in the sweep of the arch are 8 round and 8 fluted pilasters 6½ feet high, adorned with a chapiter from which arise 16 pilasters, which meet in the key of the arch. Each valve of the door was 5 feet broad and 10 feet high. To yield light to this large building, besides the great windows in the porticoes, and a row of windows in the wall above, each 6 feet high, there was above the gate a window of an acute-angled arch 19 feet broad in base and 27 in height; and in the east end between the turrets, a row of five parallel windows, each 2 feet broad and 10 high. Above these, five more, each 7 feet high, and over these was a circular window near 10 feet diameter. The grand gate, the windows, the pillars, the projecting table, pedestals, and cordons, are adorned with foliage, grapes, and other carvings."

On the north side of the choir stands the Chapter House, better known by the name of "The Apprentice Isle," in which the bishop's privy council met for their deliberations. It communicates with the choir by means of a vaulted vestry. It is altogether a singular piece of architecture. The form is that of an exact octagon. The height is 34 feet, and the diagonal breadth within the walls is 37 feet. It resembles a cube arched and vaulted at the top, while the whole arched roof is supported by a single pillar in the centre of the house. "Arched pillars," says Mr. Shaw, "from every angle terminate in the grand pillar, which is 9 feet in circumference, crusted over with 16 pilasters, and 24 feet high. These are adorned with a chapiter, from which arise round pillars that spread along the roof and join at top, and round the chapiter are engraven the arms of several bishops. There is a large window in each of seven sides, the eighth side communicating, as was said, with the choir; and in the north wall are five stalls, cut in niches, for the bishop's ministers of state, namely, the dean, the chanter, the archdeacon, the chancellor, and treasurer,—the dean's stall being raised a step higher than the other four."

An opinion used to be generally entertained, and still prevails among the less informed classes of the

* Forres is in the same county as Elgin, and is twelve miles distant from it. It now contains a population of nearly 4000 souls, and was probably extensively inhabited at the period in question.

community, that the present ruinous state of the Elgin Cathedral is to be ascribed to the blind and bigoted fury of the reformers in the days of John Knox. Nothing could be farther from the fact. In Keith's 'History of the Bishops of Scotland' there is inserted an act of the Privy Council, dated Edinburgh, Feb. 14, 1567-8, in which it is expressly enjoined on the Earl of Huntley, and his deputies the Sheriffs of Elgin and Forres, and the Bishops of Aberdeen and Moray, &c., "that they defend and assist Alexander Clark and William Birnie, and their servants, in taking down and selling the lead which covered the Cathedrals of Aberdeen and Elgin." From the same unquestionable authority we learn that the Earl of Murray, then Regent of Scotland, was greatly in want of money to enable him, by means of military force, to put down the rebellion which existed at that time in several parts of the kingdom; and that it was for the purpose of attempting to replenish his exhausted coffers, that the lead was taken off the roofs of these cathedrals and disposed of by sale. Agreeable to the mandate of the Regent, the Elgin and Aberdeen Cathedrals were unroofed, and the lead was shipped at the latter place for Holland; but scarcely had the vessel left the harbour than she sunk, and was, with her crew and cargo, wholly lost. The foundering of the vessel was attributed by popular superstition to the circumstance of the captain being a Roman Catholic. The Elgin Cathedral thus uncovered was never repaired, owing, no doubt, to the progress which the doctrines of the Reformation had by this time made; and being thus exposed to the elements, the wooden part of the great tower gradually gave way, and on Easter Sunday morning, 1711, it entirely fell to the ground with a tremendous crash. Fortunately, though a great many persons had been on the spot a few minutes previously, there were none at the moment of its falling.

The diocese of Moray, of which this splendid building was the cathedral church, was one of very great extent. It comprised the counties of Elgin, or Moray, and Nairn, and the greatest part of the counties of Banff and Inverness, and had no fewer than fifty-six pastoral charges belonging to it. The last bishop of the diocese was Patrick Hepburn, well known in Scottish history as the ecclesiastic who was fined for receiving into his house the intercommuned Earl of Bothwell, one of the husbands of the unfortunate Mary Queen of Scots.

The Cathedral is surrounded by a burying-ground, one of the largest churchyards perhaps in Great Britain: in it are interred the remains of many distinguished persons, including several of the kings of Scotland. The churchyard is enclosed by a stone wall. What with the number of the graves, the beauty and variety of the sculptured memorials of departed worth and greatness, and the grandeur of the dilapidated cathedral,—a building which is indeed pre-eminently magnificent even in ruins,—the scene is calculated to make a strong impression on the spectator.

In order, as far as possible, to prevent the Cathedral from undergoing further dilapidation, the barons of Exchequer some years since granted a sum of 900*l.* to keep it in repair. An ascent to the top of the two largest steeples, by means of interior stairs, which could not formerly be ascended, was then rendered easy; by which means the visitor can command one of the most extensive and richest prospects in Scotland. In the course of the repairs which were made in this place some years ago, a great number of curiously-sculptured stones were discovered, and being taken out of the rubbish in which they had lain for a century or two, were deposited in the Chapter House, where they are now exhibited.

About eight or nine years since, the person who had for thirty or forty years been the keeper of the churchyard and cathedral died, and John Shanks was appointed his successor. This man's veneration for the cathedral, and his enthusiasm for its antiquities, are altogether boundless. He soon furnished a most striking proof of this. Before he had been two years installed in the office, he cleared away from the area of the building, by his own unaided exertions, 2832 cubic yards of rubbish. The entrance to the cathedral and the area of the building have been, by his good taste and indefatigable labours, very greatly beautified. John's taste, zeal, and labours are really extraordinary, when it is considered that he is upwards of seventy years of age. He is a great favourite with the visitors, from the extent of his information respecting everything connected with the building, and his extreme readiness to communicate information to strangers. Not long since the inhabitants of Elgin presented him with a handsome silver snuff-box, with a suitable inscription, in testimony of their sense of what he has done to beautify the ground part of the cathedral.

The preceding view of Elgin Cathedral is adapted from a series of engravings of that ruin, from drawings taken on the spot by Mr. Clark of London, which were published some years since by Messrs. Forsyth and Young, of Elgin.

OLD TRAVELLERS.—BUSBEQUIUS.—No. IV.

Our traveller arrived at Constantinople on the 20th of January, 1555, when he found that the grand signior was not there, nor in Europe, but at the head of his army in Asia Minor. A courier was despatched to the sultan, and soon returned to Constantinople with orders that the imperial envoy should go to him in Asia, Solyman being then at Amasia, a city of the ancient Cappadocia. This journey was long, and at that time considered a novel one; "for," says Busbequius, "though the journey from Vienna to Constantinople hath been performed by many, yet this from Constantinople to Amasia hath, as yet, been undertaken by no Christian that I know of." He accordingly marked down the several stages he performed, and the names and situations of the cities, towns, and other places he passed through, which, at that period, was rendering some service to geography.

On the first day he merely crossed the Bosphorus to Scutari, which may be called the Asiatic suburb of Constantinople, the beautiful strait that divides it from that capital being more like a river than an arm of the sea, and innumerable caiks, or boats, keeping up a constant communication between the two places*. The next day he continued his journey from Scutari across fragrant plains, where he saw "a vast number of land-tortoises stalking over the fields without any fear at all." (These sluggish, inoffensive animals, of which we will give some account on a future occasion, abound in all this part of Asia, but no where, perhaps, to such an extent as in the plains of Troy. In their outward structure they bear a perfect resemblance to the sea-turtle to which, however, they are very inferior in size, being seldom found to exceed twelve inches in length. In the spring season of the year, after a shower, the ground is often seen literally covered with them.) This second day's journey extended no farther than to Kartaly, a small town on the shore of the Propontis, or Sea of Marmora, opposite the Princes' Islands, and not above twelve miles from Scutari. On the third day he reached Gabisce, a town of Bithynia, "which some think was anciently called Libyssa, and is famous for the sepulchre

* In No. 24 of the 'Penny Magazine,' vol. i., the reader may find a view and a plan of Constantinople that will make this still more intelligible.

of Hannibal, who was there interred." * * * * * "From thence," our traveller continues, "there is a most pleasant prospect over the Sea of Marmora, and up the Bay of Nicomedia; here also grow cypress-trees of a wonderful bulk and tallness." Going on at the same slow rate, he arrived, on the fourth day, at Nicomedia, anciently a splendid city, but then, as now, little more than a heap of ruins. This city is advantageously situated at the head of a deep narrow bay, or gulf, of the same name, the shores of which are even more beautiful and romantic than those of the Bosphorus above Constantinople. Some of the largest and most exquisite medallions that were ever struck by the ancient Greeks were found near this now desolate spot.

From Nicomedia, Busbequius crossed a lower ridge of Mount Olympus; and, passing through a village called Kasockly, reached Nice, the ancient Nicæa, but at so late an hour that the first watch was set. "When not far from Nice," he says, "I heard a mighty noise, as if it had been of men that jeered and mocked us. I asked what was the matter?—whether any of the mariners rowing on the Lake Ascanius (which was not far off) did deride us for travelling at that unusual time of night?" The Turks with him answered "No!"—that it was only the noise of the jackals, that were abroad in packs, and howling as usual. The cry of these animals by night does indeed produce a singular effect on the ear of the stranger. At times, their chorus sounds like the screaming and howling of an angry mob;—at others, like the whining and weeping of a multitude of infants;—and, occasionally, it may be compared to the harmony that would be produced were the mistress of a dame's school to whip soundly all the little urchins under her charge at once.

The house in which he was lodged at Nice was believed by Busbequius to be the identical building where the celebrated Council of Nice was held. "As for the town itself," he says, "it is finely situated on the bank of the Lake Ascanius." The ancient walls, which are almost entire, the majestic gates and towers, are represented as being in much the same state that Colonel Leake and other modern travellers have found them in. Busbequius saw many ancient inscriptions, and mentions the ruins of baths erected by the Roman Emperor Antoninus. He adds—"Whilst some Turks were digging in these ruins, to get out stones and marbles to build houses at Constantinople, they found the statue of a warrior in his armour, curiously wrought, and almost entire; but they quickly battered it with their hammers, even in our view; and when we showed ourselves displeased at their rude violence, they paid us with scoffing, saying, '*How! would you have us bow down to worship this statue, as you Christians use with your graven images?*'"

In this sentence our old traveller has indicated the origin of the evil and destruction that have fallen so heavily on works of ancient art wherever the Turks have obtained dominion. Like the ancient Jews, they are strictly prohibited by their prophet from making the likeness of any living thing, but more particularly from carving or delineating the human form divine; and the more fanatic among them have always considered it a serving of the Lord to demolish, or at least deface, all such works as chanced to fall in their way. A Phidias or a Praxiteles found no more favour in their eyes than a common stone-cutter. Where they could not conveniently do more, they knocked off the noses, and broke away the hands and feet, from the ancient statues and relievos. By this our readers will understand how so many of the ancient Greek works in the British Museum are so mutilated and defaced. Busbequius, who had a fine feeling for art, deplores this circumstance, and is transported with anger at the barbarity of the Turks. Leaving Nice, and going through a long narrow pass of Mount Olympus, he at length came to a plain open country, and to a town called "Chiausada," where he saw the fine breed of Angora goats, and the broad-tailed sheep, whose tails were so heavy and large that the shepherds were ofttimes "forced to lay them upon a piece of plank, running on two little wheels, that so they might draw them after them, not being otherwise able to trail them along." Fearing that so singular a fact, which is now known to most people, might subject his veracity to suspicion, our old traveller adds, "Perhaps you will think I tell you a romance; but, take it on my word, it is a certain truth." He also mentions, at the same place, "some sorts of birds unknown in Europe;" and says he saw, "amongst the rest, a kind of duck, which gives a sound like trumpeters, or such as blow the cornet:—the noise they make is almost like the sound of a post-boy's horn.' It is a bird which, though it hath nothing wherewith to defend itself, yet is very strong and daring. The Turks are verily persuaded that the devils are afraid of these birds."

It is not easy to say what these birds really were. The writer of these short notices, in another part of Asia Minor, saw, in the court-yard of a khan at Kirkagatch, a considerable town, situated on the river Caicus, not far from Pergamus, a creature in some respects answering to Busbequius's description. In its form it bore a resemblance to the duck, having a short neck, but being in its body much larger and more clumsy than our largest geese. Its head was, in proportion, still larger, and its bill or beak tremendously long and thick. The bill and part of the head were of a livid blue colour,—the eye red and fiery. In the wings and body were some bright scarlet and some yellow plumage, but the predominating colours were blues, greens, and greys. These hues were as brilliant as those of the most gaudy parrots, but the ugliness and fierce expression of the head were truly diabolical. On the upper part of the bill (which was hooked at the extremity) there was an aperture about an inch in length. When approached, nothing could well exceed the fierceness of the bird. After making a half-hissing, half-whistling noise, it produced, much to the astonishment of the observer, a long and sonorous note, which was indeed "almost like the sound of a postboy's horn." The shyness and fierceness of the bird prevented any closer examination, and the writer never saw another of the same kind. One of the Turks said they were excessively rare, and called them "the fowls of Satan."

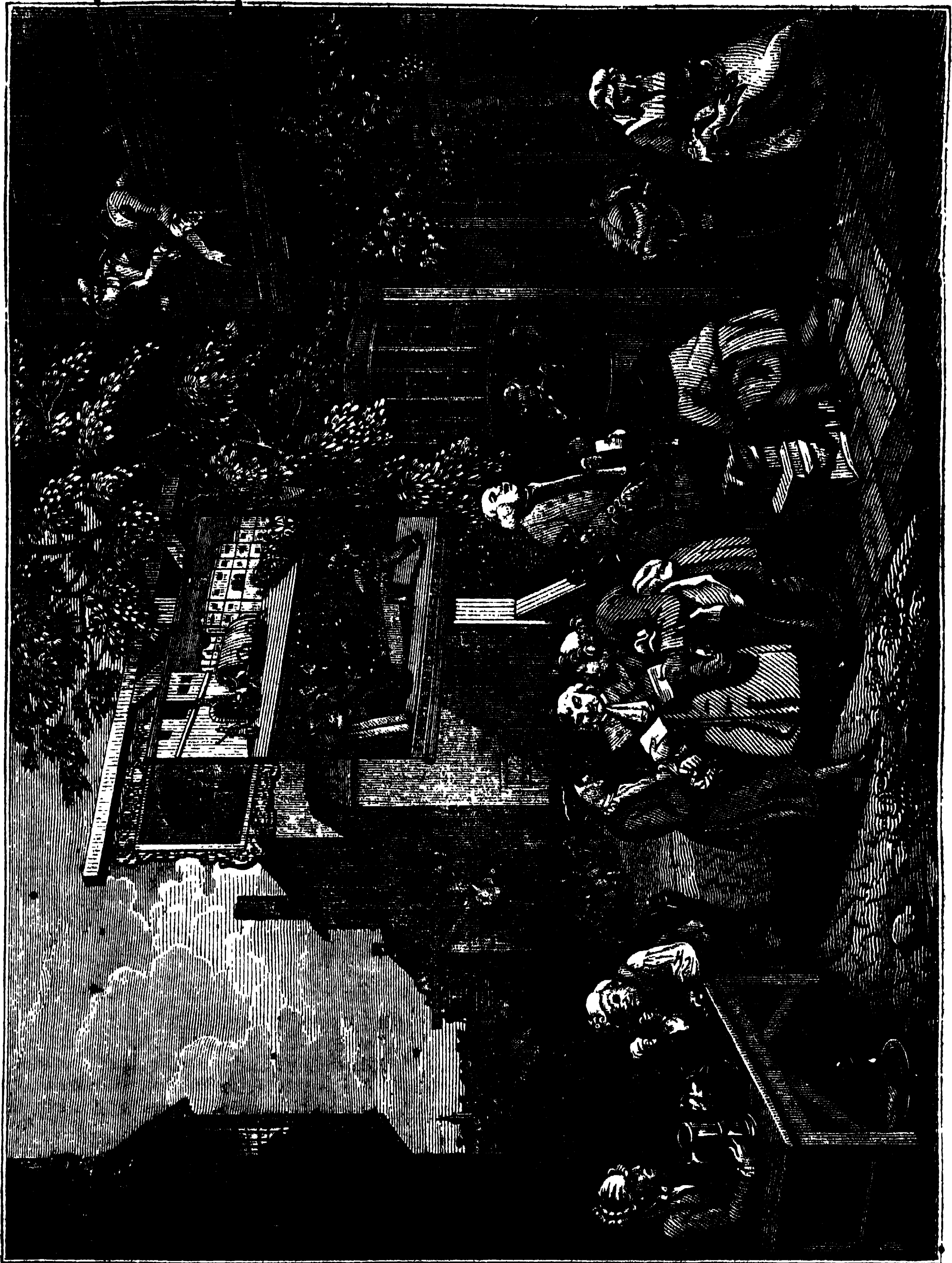
Desire of Knowledge.—Boswell relates the following anecdote of a boy who rowed him and his friend Dr. Johnson down the Thames. They were conversing upon the use of learning, and the former observed:—"'This boy rows us as well without learning as if he could sing the song of Orpheus to the Argonauts, who were the first sailors.' He then called to the boy:—'What would you give, my lad, to know about the Argonauts?' 'Sir,' said the boy, 'I would give what I have.' Johnson was much pleased with his answer, and we gave him a double fare. Dr. Johnson then turning to me, 'Sir,' said he, 'a desire of knowledge is the natural feeling of mankind; and every human being whose mind is not debauched will be willing to give all that he has to get knowledge.'"—*Boswell's Life of Johnson.*

Mr. Jefferson's Ten Rules of Life.—The following rules for practical life were given by Mr. Jefferson, in a letter of advice to his namesake, Thomas Jefferson Smith, in 1825.

1. Never put off till to-morrow what you can do to-day.
2. Never trouble others for what you can do yourself.
3. Never spend your money before you have it.
4. Never buy what you do not want because it is cheap.
5. Pride costs us more than hunger, thirst, and cold.
6. We never repent of having eaten too little.
7. Nothing is troublesome that we do willingly.
8. How much pain have those evils cost us which never happened!
9. Take things always by their smooth handle.
10. When angry, count ten before you speak; if very angry, count a hundred

HOGARTH AND HIS WORKS.—No. X.

THE ELECTION.—PLATE II.



[The Canvass.]

One of the commentators on Hogarth has declared that he prefers the principal group of the plate before us—that of the freeholder between the agents of the rival candidates—to the celebrated picture, by Sir Joshua Reynolds, of Garrick between Tragedy and Comedy. The sturdy yeoman is plied on each side by a partisan of either of the factions who are canvassing in a country town: each offers him a ticket for a dinner, and each pours money into his "itching palm." It is perfectly clear from the leer of his eye which candidate will have him;—he will sell himself to the highest bidder. This, to our minds, is tragedy as well as comedy;—the beginning is fun, the end misery and shame. When a man to whom a public trust is committed violates the conditions of that trust, and sells his conscience, it is evident that his morality must be fearfully low, and that he is a victim of the most debasing selfishness. We fear that such things still exist; although the progress of the people in the knowledge of their real interests and duties may have greatly abated the

influence of direct corruption. If it were not so, political power vested in the mass of the community would be a curse instead of a blessing.

The other parts of this picture are in Hogarth's happiest manner. The smirking canvasser purchasing ribands and gewgaws for the ladies in the balcony of the inn, that he may win votes through their favourable report;—the cobbler and the barber disputing upon politics, and tracing out plans of battles and sieges over their pipe and pot;—the landlady counting her gains;—the jolly voters feeding in right earnest at the inn-window;—the mob attacking the inn of the obnoxious candidate, and the fellow sawing down the sign upon which he is astride, unconscious that he shall fall with it,—these are strokes of humour and delineation of character which can never be obsolete.

FEMALE EDUCATION IN RUSSIA.

THERE is no criterion by which the real condition of a people can with more certainty be estimated than by the position which the females occupy among them; nor can *their* true position be better understood than by considering the amount and quality of the acquirements which they have the opportunity of obtaining.

The young females in the superior ranks of society in Russia receive education from private teachers, in boarding-schools, or in a sort of college, which is, we believe, peculiar to that country. In each of these different modes, besides the common elements of education, such as reading, writing, arithmetic, and a proper knowledge of the native language, it is professed to teach German, French, music, drawing, embroidery, and dancing. This list is somewhat extended in the "colleges;" but in all cases the French language and dancing are the accomplishments which are the most valued by the pupils and their friends, and on the attainment of which the most zealous application is bestowed. With regard to French in particular, we believe it is perfectly safe to say that there are no towns in Europe, out of France and Belgium, in which that language is so much and so well spoken by both sexes as in St. Petersburgh and Moscow.

Having mentioned the female colleges in Russia as somewhat peculiar, it seems desirable that we should describe one of those in St. Petersburgh. The best account of them with which we are acquainted is that given by Dr. Granville in his 'St. Petersburgh.' We shall therefore furnish, from this source, an account of the college called the "Communauté des Demoiselles Nobles."

The desire which was strongly felt about forty years since for the proper education of females in the superior ranks of society, led to the establishment of two colleges in St. Petersburgh; one of which was the one we have just mentioned, and the other that of St. Catherine. The former is contained in two spacious buildings, in a pleasant and airy situation near the river. These buildings are perfectly distinct, and were erected at different periods; but they are under the same superintendence, and are connected by means of a covered corridor. The institution itself consists of two parts: one, in which about 400 young ladies of noble families are educated; and another which serves for the instruction of an equal number of the daughters of respectable citizens. The young ladies are admitted by ballot; but the empress, who is the especial patroness of the institution, exercises the power of introducing pupils without this ceremony. The pupils of noble family pay the yearly sum of 50*l.*, and the others 27*l.*, for which all their wants are provided for in boarding, clothing, and education. The age at which pupils shall be admitted is not fixed; Dr. Granville observed several that were not more than eight or nine years of age, and a few that were even younger. The girls of noble family remain in the institution nine years, but others only six. During all this period, they are not allowed to quit the house, except when any of their near relations happen to be very seriously ill, and require their presence. Parents, however, are admitted to see their children on Sundays, under certain regulations and restrictions; and two or three times a-year a ball is given, in the institution, to the parents and friends of the pupils, who are then allowed to do the honours of the house. Although the pupils are confined during so long a period to the precincts of the establishment, they are amply furnished with the means of exercise. For their use in summer, there are large gardens on the banks of the Neva, and extensive covered corridors, properly warmed, for exercise in winter. Each class has also its "Hall of Recreation," where, among other diversions, gymnastics have recently been introduced, and musical instruments are provided to increase their means of rational enjoyment.

Besides the branches of instruction already enumerated, the pupils are taught something of Russian history and literature, something of geometry, and something of those branches of natural and philosophical science which are considered most suitable to their sex. The professors are generally selected from the most able teachers that are to be found in the capital: none of them are resident on the premises, but they give a regular attendance at certain appointed times. There is one lady who exercises a general superintendence over all the concerns of the establishment; and there is another, with the title of "Inspectress," who gives a more detailed attention to the conduct and proceedings of the pupils. These ladies have many subordinate assistants, teachers, and governesses, besides a great number of female servants to attend the young ladies. In the course of the period of instruction, some attention is given to those qualifications which relate to the knowledge of domestic affairs, and the management of a household. At stated periods, needlework is taught and practised by all the pupils; and the eldest of them are obliged to attend to their own toilette unassisted. It is also one of the duties of the Inspectress to see that some of the more advanced pupils are made acquainted with the business of housekeeping, management of servants, and arrangement of the household for the whole establishment. Improper conduct is punished by change of dress, and other circumstances of humiliation.

The pupils in the superior part of the institution are divided into three classes, and those of the other into two. The classes are distinguished by dresses of different colours—white, blue, and brown. Each class has three subdivisions, through which the pupil is expected to pass in the course of three years. Examinations take place at stated periods to ascertain the proficiency of the pupils; and a general public one is held every three years before a numerous assembly, consisting of the Empress, and other members of the imperial family, the officers of state, the foreign ambassadors, and the dignitaries of the church. On this occasion such of the young ladies as have completed their education exhibit proofs of their various accomplishments; and when they quit the institution, the most worthy receive a decoration in gold, which is worn throughout life, and is an acknowledged mark of distinction in society.

The classes are held in large and lofty rooms, which are excellently ventilated, and well warmed in winter. The pupils sit on raised benches, with a long narrow form before them, and the professor, with his books and a black board for the demonstration of his lecture, is placed on a raised platform at the opposite end of the apartment. An admirable degree of cleanliness is preserved in these rooms, as well as in the wide and well-

aired dormitories, and in every part of the house. During the hours of lecture an inspectress is always present; and an assistant teacher or governess attends the young ladies on all occasions, whether of study or recreation, or in the dormitories. Part of the general building is occupied by a sort of infirmary, consisting of several rooms, in which the patients are kept, attended by the professional men belonging to the establishment. Dr. Granville says they could not be more kindly nursed and treated at their own houses. He also describes the food of the pupils as nourishing and abundant. He was present at their dinner. The dining-hall—a superb saloon with a double colonnade of fluted Ionic columns—was filled with young ladies ranged on each side of several long rows of tables, served as in the private houses of the wealthy. On a signal being given, the short hymn of grace was sung by a particular division of one of the classes, and responded by the whole society in chorus, in a very impressive manner.

Without pausing to remark on the defects or advantages of such institutions as that which has been described, we may proceed to mention some facts relating to the education of people in the humbler ranks of society. It is necessary first to remind our readers that the bulk of the Russian population consists of persons who are what, for want of a more distinctive term, we may call "slaves" to the nobles, or great proprietors of land. Their offspring are in the same condition. With the view of carrying into effect such measures as might seem practicable for extending the benefits of useful instruction to the female children of this important part of the population, a lady, who was a member of the Society of Friends, or Quakers, proceeded to St. Petersburgh many years since—we think ten years. The late Emperor Alexander, and the Empress mother entered fully into her views, and rendered her every assistance in carrying them into effect. She was enabled to establish a school, in which a considerable number of girls were brought up and instructed. When she had proceeded so far with the school as to show the good effect it was capable of producing, the emperor and the other patrons of the undertaking became desirous that the benefits of the system should be extended; and for that purpose some girls were placed in the institution, with the intention of rendering them competent ultimately to impart similar instruction to the female children in different parts of the country. How the plan now operates we have no means of knowing; but with the lady mentioned, who is still at St. Petersburgh, the writer had much conversation on the subject of education in Russia, in the year 1829, and a few of her statements he will give, in her own words, from her written communications:—

"Except in the case of a very limited number of enlightened owners, the education of the bond-children is entirely neglected. When instruction is given to the children of the lower classes, the routine of education is nearly the same as among those of the higher classes. The school on which I am engaged is the only one in which a domestic education is given, and where the girls are limited to the study of their *own* language. The difficulties which have arisen have been confined to the discontent and opposition of parents, who, though so poor as not to be able to feed and clothe their children, could not endure that they should be taught no French or dancing, or that they should be employed in household work. From this cause many have been taken away, and there has been much misrepresentation. The directors were always convinced of the necessity of such a mode of education, and therefore stood firm friends to the school, or it would long ago have been closed. Now the parents are more reasonable and confiding, so that we have comparatively few difficulties.

"It is the desire of our excellent patron, Prince Alexander Galitzin, that the children may be kept as much as possible apart from communications with their own people, and they never visit the abode of their parents unless under very peculiar circumstances. Twenty-two are placed in the house by order of the emperor; these are generally complete orphans, or the children of abandoned parents. They are kept in the establishment until sixteen years of age, when they are put to service, or as teachers in private schools. None who have left regularly, and at sixteen, can be said to have turned out otherwise than well, except one girl; they either earn a comfortable support by service, or work at home for their parents. Children are frequently sent here by their barons to be trained to active habits: there are now twenty of this kind in the school. Several have left, and have given satisfaction to their owners."

The writer was often among these children, both in their hours of study and relaxation, and was much delighted to observe the uniformly neat, cheerful, and healthy appearance they presented. Their manner was very pleasing and becoming; and they appeared to regard their kind instructress with the greatest attachment. He could not but feel deeply interested when he considered the important influence which the "bond-children" then before him might exercise, in raising the condition and character of the peasantry, by furnishing, in different parts of the vast Russian Empire, examples of minds improved by knowledge, and of domestic habits and attainments formed on a much higher standard than had been previously known in that country. It is right to add, that the lady mentioned spoke highly of the general aptitude of her pupils.

WHICHNOR BACON.

On the regular mail-road from Sheffield to Birmingham, half-way betwixt Burton-on-Trent and the city of Lichfield, stands, on the left hand, a very well-built and commodious inn, bearing the sign of a large flitch of bacon, with the motto "Win it and Wear it." It forms part of the village of Whichnor, the small church of which is seen to the right hand, apparently in the open field, at the distance of about a mile; and but for the few trees around it, and the small glimpse of the Trent, which runs near it, would be passed almost unnoticed. Whichnor possesses no peculiar object to interest the traveller except the long bridge, or rather succession of bridges, over the river Trent, which here, as in many other parts of its course, is in the habit of frequently overflowing the low lands in its neighbourhood to a very great extent, and the sign, or "Flitch of Bacon," before mentioned. The latter is a memento of a singular tenure, like that at Dunmow, of which the following is the history and ceremony.

The manor of Whichnor with that of Sirescote were granted by William I. to one of his Norman followers, of the name of De Somerville, by the tenure of .. knight's fee and three-fourths; and, like other military services, the rendering of aids and reliefs to the superior lord of the fee, which superior lord was the possessor of the Honour of Tutbury. Sir Philip de Somerville, a descendant from the original possessor, was a great friend and favourite of his superior lord, John of Gaunt *; and his companionable qualities made him a frequent and welcome visitor to Tutbury Castle. The Duke of Lancaster, who was very remarkable for

* In speaking of John of Gaunt in the account of the Minstrel's Court and Tutbury Bull-Running, in No. 178, p. 15, he was inadvertently stated to be the fourth son of Edward IV., instead of the third son of Edward III.

singular, and, in many cases, jocular institutions, wishing to free his companion from the liability of being called upon for his aid at times inconvenient to himself, established the following commutation for the moiety of his claims; that is, in all probability, for the manor of Whichnor.

"That he," Sir Philip de Somerville, "should find, maintain, and sustain one bacon-flyke, hanging in his hall at Whichnor, ready arrayed at all times of the year but in Lent, to be given to every man or woman married, after the day and year of their marriage be passed; and to be given to every man of religion, archbishop, bishop, prior, or other religious; and to every priest after the year and day of their profession finished, or of their dignity received, in form following:—Whensoever that any such before-named will come for to enquire for the bacon in their own person, or by any other for them, they shall come to the bailiff, or to the porter of the lordship of Whichnor, and shall say to them in the manner as ensueth;—'Bailiff, or Porter, I do you to know, that I come for myself, (or, if he be come for another, showing for whom he demands,) to demand one bacon-flyke hanging in the hall of the Lord of Whichnor, after the form thereunto belonging.'"

Application being thus made, the bailiff or porter shall appoint a time for the applicant to come again, bringing with him two of his neighbours. "In the mean time the said bailiff shall take with him twain of the freeholders of the lordship of Whichnor, and they then shall go to the manor of Rudlow belonging to Robert Knyghtley, and then shall summon the aforesaid Knyghtley, or his bailiff, commanding him to be ready at Whichnor the day appointed, at prime of day, with his carriage, that is to say, a horse and a saddle, a sack and a pryke (*basket*), for to convey and carry the said bacon, and come a journey out of the county of Stafford at his cost. And thus the said bailiff shall, with the said freeholders, summon all the tenants of the said manor to be ready at the day appointed at Whichnor, for to do and perform the services which they owe to the baron. And at the day assigned all such as owe services to the baron shall be ready at the gate of the manor of Whichnor, from the rising of the sun to noon, attending and awaiting for the coming of him that fetcheth the bacon. And when he is come there shall be delivered to him and his fellows chaplets, and to all those who shall be there to do their services due to the baron. And they shall lead the said demandant, with trumpets and tabour, and other manner of minstrelsy, to the hall door, where he shall find the Lord of Whichnor or his steward, ready to deliver the bacon in this manner.

"He shall inquire of him who demandeth the bacon, if he has brought twain of his neighbours with him, and he must answer, 'They be here ready.' And then the steward shall cause these two neighbours to swear, if the said demandant be a wedded man, and if, since his marriage, one year and one day be passed, and if he be a freeman, or a villain. And if his neighbours make oath that he hath for him all these three points rehearsed, then shall the bacon be taken down, and brought to the hall-door, and shall there be laid upon half a quarter of wheat, and upon one other of rye. And he that demandeth the bacon shall kneel upon his knee, and shall hold his right hand upon a book, which book shall be laid above the bacon and the corn, and shall make oath in this manner:—

"'Hear ye, Sir Philip de Somervile, Lord of Whichnoore, mayntener and gyver of this baconne, that I, A., sithe I wedded B. my wyfe, and sythe I hadd hyr in my kepyng, and at my wylle, by a yere and a day after our marryage, I w'od not have chaunged for none other farer ne fowler, rycher ne pourer, ne for none other descended of greater lyneage, slepyng ne wakyng, at noo tyme. And yf the said B. were sole, and I sole, I wolde take hyr to be my wyfe, before all the wymen in the worlde, of what condicions soever they be, good or evylle; so help me God, and hys sayntis, and thys fleshe, and all fleshes.'

"And his neighbours shall make oath that they trust verily he hath said truly. And if it be found by his neighbours before-named, that he be a freeman, there shall be delivered to him half a quarter of wheat, and a cheese; and if he be a villain, he shall have half a quarter of rye without cheese. And then shall Knyghtley, the Lord of Rudlow, be called, for to carry all these things before rehearsed; and the said corn shall be laid upon horse, and the bacon above it; and he to whom the bacon appertaineth shall ascend upon his horse, and shall take the cheese before him, if he have a horse; and if he have none, the Lord of Whichnor shall cause him to have one, and a saddle, until such time as he has passed his lordship; and so shall they depart the manor of Whichnor, with the corn and the bacon before him that hath won it, with trumpets, tabrets, and other manner of minstrelsy; and all the free tenants of Whichnor shall conduct him past the lordship of Whichnor; and then all shall return, except him to whom appertaineth to make the carriage and journey out of the county of Stafford, at the costs of his Lord of Whichnor. And if the said Robert Knyghtley do not cause the bacon and corn to be conveyed as is rehearsed, the Lord of Whichnor shall cause it to be carried, and shall distrain the said Robert Knightley, for his default, for one hundred shillings, in his manor of Rudlow, and shall keep the distress so taken irrepleviable."

Sir Oswald Mosley (from whose recently-published History of Tutbury' part of the foregoing account has been extracted) observes,—"The merry Sir Philip continued to treat his bacon with due respect, for we find him granting to Hugh, son of Walter de Newbold, and Agnes his wife, by deed in the 16th of Edward I., several small pieces of land in Dunstall, upon condition that they should render to him and his heirs annually eight hens at Christmas, and one chaplet or nosegay of white and red roses, to decorate the bacon at Whichnor every year, on the feast of St. John the Baptist; they were also under an obligation to dress the said bacon, with flowers prepared for them, ten times a year, viz., to begin on Easter Eve, and continue the same monthly until the feast of St. Michael, and upon the Vigil of All Saints and Christmas Eve they were to decorate the same with ivy."

The manor of Whichnor no longer remains in the family of the Somervilles; it has had various possessors; and the hall in which the flitch originally hung has been long since destroyed. Leland says, that "Whichnor was the site of a very ancient mansion which was then in ruins, and that the spot on which it stood was subject to inundations from the Trent. Traces of this mansion are still visible in the meadows at a small distance south-west of the church. The moat is square, encompassing an acre of ground." A new building, however, has been erected, and bears the name of the lodge; in the hall of which a piece of wood in the form of a flitch of bacon hangs near the chimney, as a remembrance of the obsolete tenure.

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THE GAME OF SHINTY



[Game of Shinty.]

IN the Highlands of Scotland it is customary for persons to amuse themselves, in the winter season, with a game which they call "shinty." This sport has a considerable resemblance to that which is denominated "hurling" in England, and which Strutt describes under that name. The shinty is played with a small hard ball, which is generally made of wood, and each player is furnished with a curved stick somewhat resembling that which is used by golf players. The object of each party of players is to send the ball beyond a given boundary on either side; and the skill of the game consists in striking the ball to the greatest distance towards the adversaries' boundary, or in manœuvring to keep it in advance of the opposing side. Large parties assemble during the Christmas holidays, one parish sometimes making a match against another. In the struggles between the contending players many hard blows are given, and frequently a shin is broken, or by a rarer chance some more serious accident may occur. The writer witnessed a match, in which one of the players, having gained possession of the ball, contrived to run a mile with it in his hand, pursued by both his own and the adverse party until he reached the appointed limit, when his victory was admitted. Many of the Highland farmers join with eagerness in the sport, and the laird frequently encourages by his presence this amusement of his labourers and tenants.

MINERAL KINGDOM.—SECTION XXX.

TIN.

THE appearance of this metal is familiar to every one from its extensive use for domestic purposes. When in a pure state, and recently melted, it has a bright shining surface, like silver, which, however, soon becomes tarnished by exposure to the air. Its specific gravity is nearly eight times that of an equal bulk of water, so that it is a little lighter than iron. It has very little tenacity, and cannot be drawn out into wire; but it is very malleable, being capable of being beaten out into leaves thinner than writing-paper. It is the most fusible of all the metals, except mercury, and melts at a very low heat, viz., 442°, which is little more than twice the heat of boiling water. None of the metals used extensively in common life are so sparingly disseminated over the globe, and the chief supply of it is nearly confined to two places, viz., Great Britain and the Indian Archipelago.

Tin is never found *native*, that is, in the pure state; and there is only one species of ore, if we except one variety which is known only as a rare specimen in the cabinets of mineralogists. The ore from which we obtain the metal is an oxide, containing 75½ parts of

tin, and 21¼ parts of oxygen, in 100 parts of the ore. It is very frequently found in beautiful crystals, which are sometimes transparent, but generally of a dark-brown colour, with a brilliant shining surface. It is one of the oldest of the metals, as regards its geological position; for it is found in the primary rocks, and, indeed, has never been met with in any of later age. It traverses granite and primary slate in slender veins, and these veins are among the oldest which have been formed in the crust of the globe; for they are often crossed, but never themselves cross other veins. In Cornwall these veins are found in the granite and slate, and in the porphyry or elvan; and the ore is also found in layers interposed between, and parallel to, the strata of slate, in which last case it is said to occur in *floors*. These layers, however, are not continuous over a large extent, but are insulated, and within narrow limits. They are evidently formed, in many cases, by the union of several small veins; but sometimes tin-floors occur together, lying one above the other, and parallel to the strata in which they are, as it were, interstratified, as if they had been contemporaneous deposits with the slate. This, however, may be a deceptive appearance; for there are other instances of substances seemingly in regular alternations of strata with sedimentary deposits, which more extended observation proved to have originated from subsequent injections from below, between layers of pre-existing rocks. Tin-floors are also found in the granite and elvan; and these are not rocks which have originated from deposition at the surface, but are, in the opinion of the most experienced geologists, undoubtedly of igneous origin in the interior of the earth.

There are two systems of tin-veins in Cornwall, both running nearly east and west; but the oldest dip to the north, while the newer, which traverse the former, dip to the south. Their width is various, from a few lines to several feet, and in their length there is the same diversity: some have been traced as much as two miles. The same vein is continually changing its dimensions in point of width. Those which are found in the slate are usually much more productive of metal than those which traverse the granite; and they very commonly are met with at the junction of these two descriptions of rocks, and usually pass from the one into the other without any change taking place in the nature and contents of the vein, although there are not unfrequent exceptions to this. Quartz is the most common substance of the vein, and the ore is disseminated through it; but the vein-stone often consists of other minerals. In most of the veins of Cornwall, tin is found nearer the surface than copper. Besides the veins now found traversing the rocks, another abundant supply of tin in Cornwall is from what are called the "*stream works.*" In the lower parts of many valleys there are accumulations of gravel, sand, and other alluvium, and in these vast quantities of rolled pebbles and sand, composed of a very pure tin-ore, are met with. That ore is dug up, and such mines are called "stream-works," because streams of water are employed to wash the gravel and sand, and so separate the ore from the other substances with which it is mixed. One of the most extensive of these is that called "Happy Union," in the valley of Pentuan and parish of St. Austell, where, for many ages, a vast quantity of tin has been obtained. The valley is from 300 to 600 feet wide, and contains an accumulation of gravel, sand, and clay, to the depth of 60 feet, in many places. The gravel consists of fragments of granite, similar to that of the adjoining hills, all considerably rounded by attrition, together with fragments of slate, which have not been much water-worn. The tin-ore lies, for the most part, in the lowest bed of this alluvial deposit, and in the form of coarse sand, and of pebbles of all sizes, up to ten lbs. weight. The sand is the most valuable, because the larger pieces have often copper, or iron, or some vein-stone attached to them. No animal remains have been found in the lower part of the deposit, but roots of oak-trees have; and in the upper beds, wood, nuts, leaves, and shells, together with the bones and horns of deer and oxen, are not of unfrequent occurrence: the shells are of identical species with those now living in the adjacent seas. At a depth of twenty feet from the surface, a piece of wood fashioned by art was once met with. Similar alluvial deposits are met with in other parts of Cornwall. It is a very interesting subject of inquiry from what sources these collections of water-worn fragments have originated; that they belong to the rocks of the country is evident, but it is not of sufficient extent to lead us to suppose that the wearing of the fragments has been occasioned by a long transport. It would seem as if the surface of the land had been covered for a time with water in violent agitation, and that it was swept off in a direction from the north to the south; for the greatest number of these stream-works are in the valleys opening to the sea on the south and south-east, and there are few in those valleys of which the lower terminations are to the north and north-west. The occurrence of tin-ore in veins near the surface which at greater depths afford the ores of other metals to the entire exclusion of tin, is at present by no means uncommon; and they appear to have existed even to a greater extent in former times, otherwise fragments of other ores would have been more commonly met with in the stream-works, even although we take into account that tin-ore is much less liable to decomposition than the usual ores of copper and iron in Cornwall are. These tin-veins at the surface must have been torn up along with the other surface rocks, and the fragments abraded and rounded, and afterwards gradually deposited in beds in the lower country. There are deposits of stream tin-ore of different ages, for in none of the lowest have any organic remains been found; but they have been met with in the superior parts, and some of these accumulations are of comparatively recent date, for at Treloy, brooches, rings, and coins of rude workmanship, were found in a bed of tin-ore of small thickness. Thus it is evident that the stream-works cannot be ascribed to the action of one great torrent or deluge, but that water must have swept over the land at repeated and distant intervals of time.

The principal tin-mines of Cornwall are in the south-west part of the county, in the parish of St. Just, where the country consists principally of granite; but there are several productive mines in the slate in other places. In our description of the copper-mines we have mentioned that several are worked under the bed of the sea: there are also some of the tin-mines in similar situations. One was opened actually *in* the sea some years ago. It was called Wherry Mine, and was situated near the shore, a little to the west of Penzance, where a rock of elvan, which had been found to contain slender veins of ore, was uncovered at low water. An adventurous miner set to work, although the rock was covered several feet deep at every tide, so that he could only proceed during a part of the day. Every time the men returned to their work they had to empty out the water in the excavation they had formed; but after they had advanced some way an inclosure, or kind of coffer-dam, like what is used in building the piers of bridges, was constructed, which rose above the high-water level, and, by machinery connected with a steam-engine at 200 yards distance on the shore, the work was proceeded with. The mine produced a considerable quantity of ore for several years, when unfortunately a large vessel, which had drifted from her moorings, struck against the coffer-dam, overturned it, and the whole works were in an instant filled with water. The most important stream

works are in the neighbourhood of St. Austel and St. Just, and the most productive are those of Pentuan above referred to.

The early history of the working of the Cornish tin-mines has occupied the attention of many writers, and in a volume of the Transactions of the Cornwall Geological Society there is an interesting essay on the subject by Mr. Hawkins, from which we have derived several of the following particulars. The earliest notice of tin is in the Book of Numbers, xxxi. 22. The Hebrew word, which, in the Septuagint, or ancient Greek translation, is rendered in that place by *Cassiteros*, and, in the Vulgate, or ancient Latin translation, by *Stannum*, is *Oferet;* but in Ezekiel, xxii. 18, 20, the same words are used to translate the Hebrew *Bedil*. That the *Cassiteros* of the Greeks and the *Stannum* of the Romans were pure tin is doubtful;—it is more probable that they were a mixed metal, but containing tin. Now whence did the Midianites derive their tin? None is known to exist nearer their country than in Spain. The prophet Ezekiel, xxvii. mentions *Bedil* as an article of Phœnician commerce. That people had a colony at Gades in Spain, the modern Cadiz, and may have derived the tin from that country. According to Heeren, Gades must have been founded 1100 years before Christ, and there is reason to believe that the Phœnicians, both through the medium of that colony and directly, had intercourse with Britain about a century after that time, and that they got their tin from thence. Pryce conjectures that the celebrated Tyrian purple dye was produced by tin. Herodotus speaks of the *Cassiterides*, or Tin Islands, but does not say where they were situated: they have usually been considered to mean the Scilly Islands, and adjoining coast of Cornwall, for there are traces of old tin-mines in these islands, which are of the same geological structure as that of the tin district of the main land; and Borlase says that, to those who are on the Scilly Islands, Cornwall appears like an island. This product of Cornwall was a staple article of Phœnician commerce for many centuries, and was conveyed by them to the eastern shores of the Mediterranean, from whence, according to Arrian and Pliny, it was transported as far as India. According to Diodorus, a commercial intercourse subsisted between Cornwall and the southern provinces of the Roman empire. That the Romans worked tin-mines in Cornwall is extremely probable, for there are well-authenticated instances of the discovery of Roman coins in old tin-mines and stream-works; and a block of tin of a singular form, with an inscription in Roman letters upon it, was found in the parish of Veryan. Wooden tools of different kinds, and of antique form, have been found in the stream-works, but no such tools have ever been found in the copper-mines.

With regard to the tin trade of Cornwall in the middle ages, Mr. Hawkins remarks, that there appears to have been at all times a steady demand for it in the markets of the East, from the invariable usage in those countries of tinning the inside of their kitchen utensils, which are made of copper; that a great increase of demand took place in the eighth century, when bells for churches came into general use in western Europe, for they were then cast of a great size. The mines were very productive in the thirteenth century, for Richard Earl of Cornwall at that time possessed immense wealth, which he derived from his mines. Towards the end of the fifteenth century, the introduction of brass guns for field artillery created a new demand; as did the invention of pewter in Italy, where it had come into common use in the early part of the sixteenth century.

In our next Section we shall describe the manner of smelting the ore, and the chief foreign localities from which this metal is obtained.

OLD TRAVELLERS.—BUSBEQUIUS.—No. V.

From Chiansada Busbequius went on to Karali, Hazdengri, and Mazotthoy, crossing, near the latter place, the river Sangar (Sangarius), "which," he says, "runs into the Pontus, or Black Sea, out of Phrygia." From the Sangarius he proceeded by four other places, of no name or importance; and on the ninth day after his departure from Constantinople, and not before, he arrived at the ancient city of Ancyra, called by the Turks Angur, and by us Angora. He says, "I saw nothing remarkable in all these villages we went through, save that sometimes among the Turkish tomb-stones we discovered some pillars, or ancient pieces of curious marble, whereon were many remains of Latin or Greek inscriptions, but so defaced that they could not be read; which disappointment I very much resented; for my great delight was, as soon as I came to my lodging at night, to inquire after old inscriptions, together with Latin and Greek coins, and sometimes for rare kinds of plants."

Further on, he says, he found abundance of old coins all up and down this country, and saw that the Turks were in the habit of defacing them, and using them for weights, and of melting down the copper ones to furnish materials for pots and pans. "There was a brazier in one city," he continues, "who grieved me very much; for, demanding of him whether he had any ancient coins to sell, he answered me that a few days ago he had a room full of them, but had melted them down to make brass kettles, as thinking them of little value, and fit for no other use. When I heard this story, it troubled me much to lose so many choice monuments of antiquity; but I paid him back by telling him, that I would have given him 100 guineas for them; so that my revenge was suited to his injury; for I sent him away as sorrowful for the loss of so great gain, as he did me for losing the coins."

Of Ancyra, or Angora, he says, "It is a city of Galatia, sometime the seat of the Gauls, called by Pliny the Tectosages; nor was it unknown to Strabo, though, perhaps, the present town stands but on part of the old town, called in the canons Anguira. Here we saw a stately superscription, and a sampler of those tables whereon the achievements of the Emperor Augustus were summarily comprehended. I caused as much of it as we could read to be copied * * * * but the lower part of it was so battered with clubs and hatchets that it could not be read at all; which loss cannot be sufficiently lamented by all lovers of learning; and so much the more, because the commons of Asia dedicated the city to Augustus. Here, also, we were witnesses of the dyeing of that cloth made of goats' wool, and how they camlet it, or give it its water colour."

From Angora our old traveller proceeded to the village of Balykhissar, and, two stages from that village, reached the river Halys, which has been rendered famous in story by the defeat of Crœsus, the wealthy king of Lydia, by Cyrus the Persian. After crossing the Halys, which, like the Sangarius, falls into the Black Sea, Busbequius travelled on to Teckè-Thioi, where the Turks had a stately monastery for their monks, or dervishes. These dervishes told him many wonderful stories about a sort of Mahommedan St. George, called Chederles, who rescued a virgin by slaughtering a huge and terrific dragon; and, after doing many other deeds, became immortal (he and his horse) by drinking the water of a certain river which "lies somewhere hid in a great cloud, or mist of darkness, so that it has never been seen since!" Our traveller gives an amusing and what is still a true account of the popular anachronisms, and jumbling of history and character, among the Turks.

"They do say that Chederles was one of the friends

and companions of Alexander the Great. But the truth is, the Turks keep no just account either of times or places, but make a confused hodge-podge of all history. They scruple not to say, '*That Job was master of the horse to Solomon, and that Alexander the Great was general of King Solomon's army!*' "

On the second day after crossing the Halys, and the thirtieth after his departure from Constantinople, Busbequius reached Amasia, the end of his journey. He had travelled very slowly; and the Turks had purposely delayed him several days on the road, in order that he and a Persian ambassador, who was also going to sue for peace, should arrive about the same time at the warlike sultan's head-quarters. A few hours after his arrival at Amasia, he was introduced to the great Solyman, who received him with a sour and frowning countenance. He says—

"The sultan sate upon a low throne, not above a foot from the ground; but it was all covered over with rich tapestry, and with cushions exquisitely wrought. His bow and arrows lay by his side: he himself, as I said, looked sternly upon us; and yet there was a certain majesty, mixed with severity, in his countenance. Each of us, as we entered the room, was led up towards him by some of the bedchamber officers, who held us tight by the arm * * * and afterwards having made as if we kissed his hand, we were led backward to the opposite side of the room; for the Turks count it an unmannerly thing to turn any of their back parts upon their prince. There I had liberty to declare our imperial master's wishes; but they suited not with his lofty imperious spirit; so that he, as disdaining them, said nothing but *Guisel! Guisel!* i. e., 'Well!' 'Well!' and so we were dismissed to our lodgings."

The following sketch, by a contemporary, (which is given by Busbequius a few pages farther on,) of one of the greatest monarchs that was ever girded with the imperial scimitar of the Ottomans, is valuable and curious.

"If you ask me," he says, "what manner of man Solyman then was, I will tell you. He was an ancient man; his countenance and the mien of his body were very majestic, well becoming the dignity he bore: he was frugal and temperate, even from his youth. * * But he was too uxorious and over-indulgent to his wife (the celebrated Roxalana), which made him give way to the foul murder of Mustafa, his own son by another woman; yet that crime was vulgarly imputed to an ascendant she had gained over him by reason of her love-enchantments and love-potions * * * * He is a very strict observer of the Mohammedan religion, and is as desirous to propagate that as to enlarge the bounds of his empire.

"He is now sixty years of age: and, for a man of his years, he enjoys a moderate proportion of health; and yet his countenance doth discover that he carries about with him some hidden disease,—it was thought a gangrene, or ulcer, in the thigh; *yet at solemn audiences of ambassadors, he hath wherewith to paint his cheeks, that he may appear sound and healthy to them!*"

Alas! for ambition and grandeur;—a concealed and loathsome disease and painted cheeks at wrinkled three-score!

OAK-BARK [illegible]S.

BARK is the outward covering of plants and trees, one of its functions being to protect the inner structure from the effect of sudden changes of temperature. On this account, the bark of the pine-trees which are found in the most inclement regions of North America is often from a foot to fifteen inches in thickness. Another of its uses is to convey to the roots those juices which are elaborated in the foliage. In a young plant the bark is covered with a smooth thin skin; but the expansion of the wood in a few years causes the bark to assume a rough appearance, the continued growth rending it in a perpendicular direction, as may generally be seen in all aged trees. In the birch-tree, owing to the peculiarity of the bark, stripes of it are continually peeling off, being no longer adapted for their intended purposes.

Corks are formed from the dead bark of the cork-tree, which is taken off at certain seasons of the year, being separated without difficulty from the portions of more recent growth. The vigour of a tree is said to be improved by being barked once every eight or ten years after it is fifteen years old, some which have regularly submitted to this operation living for 150 years.

A description of oak growing in North America produces the Quercitron bark, which forms so important an article as a yellow dye. The medicinal value of the Peruvian bark has been known about two centuries, but it was not until fifty years after its introduction in Europe that its qualities were duly appreciated. The original *cinchona* of Peru, which is of a pale colour, is becoming scarce. When dry it is scarcely odorous, but becomes so when used as an infusion. The two other descriptions are the red bark and the yellow bark. The fruit is less bitter than that of the *cinchona*, but its astringent qualities are greater. The nearer the second approaches the colour of an orange the better is its quality: it is comparatively worthless when it assumes a hue between red and yellow. It is bitter to the taste, but its properties are not astringent.

The bark of a tree always contains a greater proportion of the principle of a plant than any other organ. Oak-bark possesses a chemical property which is used in converting hides into leather. The astringent quality which effects this is called *tannin*. Heath, gall-nuts, birch-tree bark, myrtle leaves, leaves of wild laurel, and willow-bark, have been used as substitutes for oak bark, and even oak saw-dust. Sir Humphry Davy ascertained the relative value to the tanner of various substances in which *tannin* resides. He showed that $3\frac{1}{2}$ lbs. of oak-bark are equal to $2\frac{1}{4}$ lbs. of galls, to 3 lbs. of sumach, to $7\frac{1}{2}$ lbs. of the bark of the Leicester willow, to 18 lbs. of elm-bark, and to 21 lbs. of common willow-bark. The following table is the result of another series of experiments which Sir H. Davy made. It shows the quantity of *tannin* he obtained from 480 lbs. of the bark of middle-sized trees of the species enumerated, gathered in the spring, when this property exists in the greatest abundance.

	lbs.		
Oak	29	Lombard Poplar	15
Spanish Chestnut	21	Birch	8
Leicester Willow (large)	33	Hazel	11
Elm	13	Blackthorn	16
Common Willow (large)	11	Coppice Oak	32
Ash	16	Inner rind of Oak-bark	72
Beech	10	Oak cut in Autumn	21
Horse Chestnut	9	Larch cut in Autumn	8
Sycamore	11		

Before being used in tanning, the bark is ground into coarse particles, and a layer is put upon each skin in the tan-pit. Without bark or *tannin* the skins would dissolve into glue, but the astringency which it possesses occasions a process exactly the reverse, and forms the substance called leather. The use of bark in hot-houses is getting out of favour with scientific gardeners.

It would be difficult to form a correct opinion as to the quantity of bark used for tanning in this country in a single year. Our foreign supplies of oak-bark are derived from the Netherlands, Germany, and some of the Mediterranean ports, and amount to about 40,000 tons annually; the duty being 8*d*. per cwt. on that imported from foreign countries, and 1*d*. if coming from British possessions.

The importations of cork amount to about 44,000 lbs., which arrive chiefly from Portugal; the duty is 8s. per cwt. Our own cork-cutters are protected from foreign competition by a duty of 7s. per lb. on manufactured corks. In 1832 the importation of Peruvian bark amounted to 356,998 lbs.; in 1833 to 253,767 lbs. (duty 1d. per lb.); but after retaining 49,525 lbs. for domestic consumption, the remainder was exported to foreign countries.

The plate represents a party of women engaged in peeling the bark from an oak-tree. To the intelligent inhabitant of the country the cutting down of an aged tree is a somewhat painful occurrence. It has probably been the admiration of the neighbourhood for many generations; and the removal of an object which his forefathers as well as himself had regarded with interest and pleasure, harshly severs many of the associations which almost visibly connected the past with the present. The conviction, however, that what has been beautiful in its natural state will be eminently



[Peeling the Bark from the Oak.]

useful in its employment by man, at once reconciles the reflecting mind to the circumstance. The oak formed into a stately ship is better than the oak rotting in forests which human art has never felled.

Trees are sometimes left standing until they are so completely undermined by age, that it is a measure of safety to cut them down to prevent their falling on the cattle which resort around them for shelter. For the purpose of obtaining timber for commercial uses, the proper time for felling an oak or any other tree is at the season of its maturity, when it ceases to make any farther increase to its diameter. The farmer, then, either cuts the roots at about three feet from the stem, and secures a chopping-block for the butcher, or severs the trunk at the level of the earth, and leaves the root to grow shoots for fuel. The tree being felled, is next divested of its branches, which are sorted into fence-wood, faggots, &c., and the trunk and arms preserved as entire as possible for the builder. But before the trunk is deprived of its larger branches, the whole are stripped of the bark. This operation is performed in the following manner:—a number of women called "barkers" are each furnished with light short-handled mallets made of hard wood, about eight or nine inches long, three inches square at the face, and the other end sharpened like a wedge, in order the more easily to make an incision in the bark, which is done all along the side of the tree which happens to be uppermost, in a straight line; and as two barkers generally work together, it is proper that whilst one is employed in making an incision with the mallet, the other, being furnished with a pointed instrument called the "barking-bill," cuts the bark across the tree in lengths of from two feet six inches to three feet, and then, by forcing a shovel-shaped instrument called a "peeling-iron" between the bark and the wood, easily separates the former, and peels it from the timber in entire pieces. The larger branches are afterwards stripped in a similar manner. This business being chiefly done in the early spring season, the vast trunks are left in the situations in which they first fell till the gathering of the crops in autumn permits their removal. During this time they get blanched to almost perfect whiteness, and in the midst of the summer verdure have a very singular but picturesque appearance.

The bark, when peeled, is carefully dried for two or three weeks, and then piled in stacks of about eight feet square by fifteen feet in height, and sold to the tanner.

NORTH AMERICAN INDIANS.

The spirit of investigation has hitherto done but little towards laying down any satisfactory data as to the origin of the aborigines of North America. The relics pertaining to them, which are at times discovered, are few and simple, consisting chiefly of hatchets of a rude form, knives of stone, mortars for bruising maize, arrow-heads, and similar articles. But these afford no grounds on which to trace their history. They are the same as had been long in use before the discovery of America, and had undergone no change at the time when the "pilgrim fathers" landed at Plymouth and laid the foundation of a new world. It is true that there are traces of a people who lived at a period antecedent to that of the Indian tribes with which Europeans have become acquainted, but their history is still further lost in mystery. Their *tumuli* are to be found in many parts of North America, and from the age of the trees which have grown over these remains, it is calculated that at least a thousand years must have elapsed since their abandonment; and how long they had previously existed it is impossible even to form a well-grounded conjecture. The tumuli are generally in the neighbourhood of the great rivers, between the shores of Lake Erie and the Gulf of Mexico. It is not an idle speculation to assume that the people by whom they were constructed possessed some knowledge of the useful arts, and consequently were more civilized than the subsequent inhabitants of the country; but some have inferred that the existence of great cities at some remote period is indicated by these remains of antiquity. Nothing else is now left of this race, and no record can inform us of the circumstances which led to their social decline.

It has been computed that not fewer than 2,000,000 of the Indian tribes inhabited the immense territory extending from the Atlantic to the Pacific Ocean when the first English settlements were formed in North America. Above 11,000 existed in the district now comprised in the state of Maine. Some of the tribes were powerful, both by their warlike qualities and their political talents. The Mohawks and four other tribes formed a confederation, whose power extended from the Canadian Lakes to Virginia. The Cherokees not only occupied 36,000,000 of acres as their hunting grounds, but defended the same by their arms. The whole of the vast territory of North America was divided among a variety of tribes all distinguished both as warriors and hunters. There was everything indeed to be found in this quarter which could attract a people to whom the exertion of continued labour was irksome. The woods produced an abundant supply of wild-fruits; the plains brought forth herbs and vegetables; and deer, morse, bears, turkeys, pigeons, quails, and partridges, everywhere abounded. The beaver and a variety of animals furnishing valuable skins were almost as numerous as the game in a modern preserve, and the bays, creeks, rivers, and lakes, furnished plentiful supplies of fish and wild-fowl. Here, where but little exertion was required to supply the few natural wants of life, the native tribes might have increased in numbers and happiness, and, if it were consistent with that stage of society, have contained in reality those attractions which it is vainly supposed to exhibit in contrast to the struggles of a more civilized career. But the condition of the wild hunter, under circumstances as favourable as any under which it could have been placed, contained within itself no progressive principle; and when industry and the application of the useful arts had given the first settlers prosperity, ease, and comforts, the savage tribes, not being drawn within the extending stream of civilization, gradually dwindled in their power and numbers, till it has become a question whether in a few years any traces will remain of their existence. Thatcher, an American writer, remarks:—"The time will come but too soon, we fear, when the history of the Indians will be the history of a people of which no living specimen shall exist upon the earth: too soon will the places that now know them know them never again. Their council-fires will have gone out upon the green hills of the south. Their canoes shall plough no more the bosom of the northern lakes. Even the prairies and mountains of the far west will cease to be their refuge from the rushing march of civilization. Their forests will be felled; their game will disappear: and then,—if indeed no portion of them can be rescued by benevolence from the grave of heathenism,—if no blessed ray of the knowledge of man, or the saving truth of Heaven, shall lighten the gloom of the wilderness,—then will the last Indian stand upon the verge of the Pacific seas, and his sun will have gone down for ever.'

To civilized men of all countries the interests of humanity are too dear to permit them to regard the extinction of a race possessing, or which once possessed, a national existence and not a few grand and noble virtues, without strong feelings of sympathy. The nar-

ratives of Hunter and Tanner, the writings of Chateaubriand, Campbell's 'Gertrude of Wyoming,' the novels of Cooper, and other works, have strongly interested men in the fate of the North American Indians, and made us familiar with their skill as hunters, their indomitable courage as warriors, and their simple virtues as men. If the poet and the novelist have been touched with their many claims on their fellow-men, the statesman and the Christian will surely regard their condition with still higher interest.

In the United States' territory the number of Indians existing at present amounts to about 313,000. In Vermont, New Hampshire, and several other States, none are left. In Maine, Massachusetts, Rhode Island Connecticut, and Virginia together, there are less than 2,500. The policy of the United States towards the Indians has been praiseworthy, so far as the central government is concerned. Many years ago, the Cherokees, wishing to remain on the land of their fathers with a view to their national preservation, the government at Washington entered into a treaty with them, by which boundaries were fixed and friendly relations established between the parties. These boundaries were guaranteed by the United States, but five out of the ten millions of acres of which their territory consisted were claimed by the States of Georgia and Carolina, under a protest made at the time, in which they contended that this treaty was an exercise of power not conferred upon the central authority of the country by the articles of confederation. In 1827, Georgia, by an act of her own legislature, asserted her right of taking possession of the Cherokee country by force. She declared that the Indians were tenants at her will,—that she wanted their lands, and would have them. In 1831 and 1832, Georgia extended her jurisdiction over the Cherokee territory, and, by the agency of laws enacted by her separate legislature, prohibited the preachers of the American Board of Missions from residing in the Cherokee district, imprisoned some of the natives, and threatened the whole tribe with banishment. Three of the missionaries were tried by the courts of Georgia for refusing to acknowledge the jurisdiction of that State; and the atrocious sentence was inflicted upon them of confinement for four years in the Georgian Penitentiary.

Efforts were made to avert the fate of a people whose rights as a nation had been recognized by many separate treaties which the United States' government had formed with them. The central government acted as mediator between its federative State and the Cherokees, and offered the latter an extensive territory west of the Arkansas, to be secured to them by patent, and to be for ever beyond the boundaries of any State. To this the Cherokees objected, and the question of their removal was carried in the Senate of the United States by a majority of 7 out of 47 votes, and, in the House of Representatives, by a majority of 5 out of 199 votes.

When the state of Georgia held out its threats of despoiling the Cherokees of their property in the soil, their population was 13,563. In eighteen years ending in 1825, the rate at which the population had increased varied but little from the common rate of increase amongst the whites of the United States. In 1832, the Cherokees amounted to 15,060, including 1200 African slaves. Above 150 white men and 73 white women had intermarried with them, and resided amongst them. Agriculture and many useful arts had made considerable progress. They possessed 80,000 domestic animals, including horses, cattle, sheep, and swine, 3000 ploughs, 2,500 spinning-wheels, 62 blacksmiths' shops; in fact, they had within themselves all the materials for obtaining abundance and prosperity. A well-organized government watched over the interests of the community. The executive was composed of a chief and assistant, with three counsellors, all elected by the legislature, which consisted of a national committee and a national council, the former containing sixteen members, and the latter twenty-four, the members of each body being chosen for two years. All males above eighteen years of age, except those of African origin, possessed the privilege of voting. Each of the two bodies had a negative on the other, and together were styled the "General Council of the Cherokee Nation." The executive counsellors were chosen annually. The courts of judicature consisted of a supreme court, and of circuit and inferior courts. There was also a treasury, but we are not aware in what manner its coffers were filled. The dress of the Cherokees was substantially the same as that of their white neighbours. They raised not only sufficient food to supply their own wants, but many of them had a surplus of corn for sale; and they had ceased to depend upon game as a means of subsistence. Their dwellings were neat and comfortable; the simplest were log-cabins, and seldom without a proper floor, but many consisted of two stories, and some dwellings were of wood, or brick neatly painted, and both commodious and handsome.

Nor was the intellectual and moral state of the Cherokees less cheering than their physical condition. Polygamy was declining among them, and their women were assuming the position for which they were designed. Eighteen schools had been established. At the commencement of 1831, about 200 Cherokees, exclusive of females, had attained an English education, which enabled them to transact or carry on any ordinary business; 500 children were learning English, and a majority of the population, between the period of childhood and middle life, could read their native language. The government possessed a press, at which the Gospel of St. Matthew and a collection of hymns had been printed in Cherokee. A newspaper was also published in the same language. A native named Guess had invented the characters.

This was an important point in the history of the Indians. Their common mode of communication had previously consisted of a system of hieroglyphics inscribed on a piece of bark, or on a large tree with the bark taken off for the purpose. A war-party by this means could at once make known its success, and communicate many minute points connected with their expedition. In like manner a party of hunters would describe a chase.

Charlevoix, an old French writer, remarked that the Indians were so acute that even on the hardest ground they would discover if a person had recently passed, and would distinguish the footsteps of men from those of women, and even of what nation the parties were. An anecdote is related of an Indian hunter who, having discovered that some venison which he had hung up in his hut to dry had been stolen, set off through the woods in pursuit of the thief. He had not proceeded far before he met with some persons of whom he inquired if they had seen a little old white man with a short gun, accompanied by a small dog with a little tail, as a man of that description had stolen his venison? They happened to have seen such a person; and the Indian, on being asked how he could describe a man whom he had never seen, replied, "The thief I know is a *little* man, by his having made a pile of stones to stand upon in order to reach the venison; that he is an *old* man I know by his short steps, which I have traced over the dead leaves in the woods; and that he is a *white* man I know by his turning *out* his toes when he walks, which an Indian never does. His gun I know to be *short*, by the mark the muzzle made in rubbing the bark of the tree on which it leaned; that his dog is *small* I know by his tracks; and that he has a *short tail* I discovered by the mark it made in the dust where he

was sitting at the time his master was taking down the meat."

It is almost astonishing that, as the faculties of observation were so active as is here described, the Indian system of picture-writing or hieroglyphics had not become more perfect and made nearer approaches to the characters which Guess invented. But the truth is, it fulfilled all the objects which were called for in that state of existence. When, however, the necessities of civil life called forth fresh habits and states of feeling, then it failed to supply the symbols which their new condition required. The invention of characters became necessary. Both the invention and the inventor are thus described in the 'Cherokee Phœnix:'—"Mr. Guess is, in appearance and habits, a full Cherokee, though his grandfather, on his father's side, was a white man. He has no knowledge of any language but the Cherokee. He was led to the subject of writing the Cherokee language by the conversation of some young men, who said that the whites could put a talk upon paper, and send it to any distance and it would be understood. In attempting to invent a Cherokee character, he at first could think of no way but that of giving each word a particular sign. He pursued this plan for about a year, and made several thousand characters. He then became convinced that this was not the right mode, and, after trying several other methods, at length conceived the idea of dividing the words into parts. He now soon found that the same characters would apply in different words, so that their number would be comparatively small. After putting down and learning all the syllables that he could think of, he would listen to speeches and the conversation of strangers, and whenever a word occurred which had a part or syllable in it that was not on his list, he would bear it in mind till he made a character for it. In this way he soon discovered all the syllables in the language. In forming his characters he made some use of the English letters, as he found them in a spelling-book in his possession." After commencing the last-mentioned plan, he is said to have completed his system in about a month, having reduced all the sounds in the language to eighty-five characters. Mr. Guess was advanced in life when he entered upon this work.

We have not space in the present Number to show what is the policy of the British Government towards the Indians in our North American possessions; but we shall again recur to the subject, and shall then give some account of their moral condition, and the prospects which there appear to be of their future civilization.

COLLEGE LIFE IN THE UNITED STATES.

The following graphic sketch of college life in the United States is abridged from an American work*, which has, we believe, been re-published in this country.

I must say a word or two with regard to the ordinary routine of daily life at college. Very early in the morning the observer may see lights at a few of the windows of the buildings inhabited by the students. They mark the rooms occupied by the more industrious or more resolute, who rise and devote an hour or two to their books by lamp-light in the winter mornings. About day, the bell awakens the multitude of sleepers in all the rooms, and in a short time they are to be seen issuing from the various doors with sleepy looks, and with books under their arms, and some adjusting their hurried dress. The first who come down go slowly, others with quicker and quicker step as the tolling of the bell proceeds; and the last few stragglers run with all speed to secure their places before the bell ceases to toll. When the last stroke is sounded, it usually finds one or two too late, who stop suddenly and return slowly to their rooms. While the morning religious service is performed by the president, or one of the professors, the students exhibit the appearance of respectful attention, except that four or five, appointed for the purpose in different parts of the chapel, are looking carefully around to observe what persons are absent. A few, also, conceal under their cloaks, or behind a pillar or partition between the pews, the book which contains their morning lesson; and endeavour to make up, as well as the faint but increasing light will enable them, for the time wasted in idleness or dissipation the evening before. When prayers are over, the several classes repair immediately to the rooms assigned respectively to them, and recite the first lesson of the day. During the short period which elapses between the recitation and the breakfast-bell, college is a busy scene. Fires are kindling in every room. Groups are standing in every corner, or hovering round the newly-made fires;—parties are running up and down the stairs, two steps at a time, with the ardour and activity of youth:—and now and then a fresh crowd is seen issuing from the door of some one of the buildings where a class has finished its recitations, and comes forth to disperse to their rooms followed by their instructor, who walks away to his house in the village. The breakfast-bell brings out the whole throng again, and gathers them around the long tables in the Commons' Hall, or else scatters them among the private families in the neighbourhood.

An hour after breakfast the bell rings to mark the commencement of study hours; when the students are required by the college laws to repair to their respective rooms,—each of which answers the threefold purpose of parlour, bed-room, and study—to prepare for their recitation at eleven o'clock. They, however, who choose to evade this law can do it without much danger of detection. The great majority comply; but some go into their neighbours' rooms to receive assistance in their studies, some lay by the dull text book and read a tale, a play, or game; and others, farther gone in the road of idleness or dissipation, steal secretly from college and ramble in the woods, or skate upon the ice, or find some rendezvous of dissipation in the village, evading their tasks like truant boys. The afternoon is spent like the forenoon, and the last recitation of the winter's day is just before the sun goes down. An hour is allotted to it, and then follow evening prayers, at the close of which the students issue from the chapel and walk in long procession to supper. The remainder of the account describes the manner in which the various students pass their evenings; which of course varies with the dispositions of the students, as the appropriation of this time is regulated by no prescribed rule, although it is assumed that part of it at least will be applied to preparation for the recitations of the ensuing morning. There is nothing peculiar in the occupations of the well disposed; but some of the employments or amusements of those whose minds are least disciplined, cannot but seem strange to us. Some assemble for mirth or dissipation, or prowl round the entries and halls to perpetrate petty mischief, breaking the windows of some hapless Freshman,—or burning nauseous drugs at the keyhole of his door,—or rolling logs down stairs, and running instantly into a neighbouring room so as to escape detection,—or watching at an upper window to pour water unobserved upon some fellow-student passing in or out below,—or plugging up the keyhole of the chapel-door to prevent access to it for morning prayers,—or gaining access to the bell by false keys, and cutting the rope, with a variety of other pranks of a similar description. After becoming tired of this, they assemble in the room of some dissolute companion, and there prepare themselves a supper with food they have plundered from a neighbouring poultry-yard, and utensils obtained in some similar mode. Ardent spirits sometimes make them noisy;—and a college officer, at half-past nine, breaks in upon them, and exposure and punishment are the consequences. Similar dispositions to mischief and dissipation doubtless exist to a large extent in our own colleges, but they are somewhat differently exhibited; and in such cases it is only the *mode* of exhibition which can be called characteristic.

* Abbott's 'Corner Stone.'

. The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

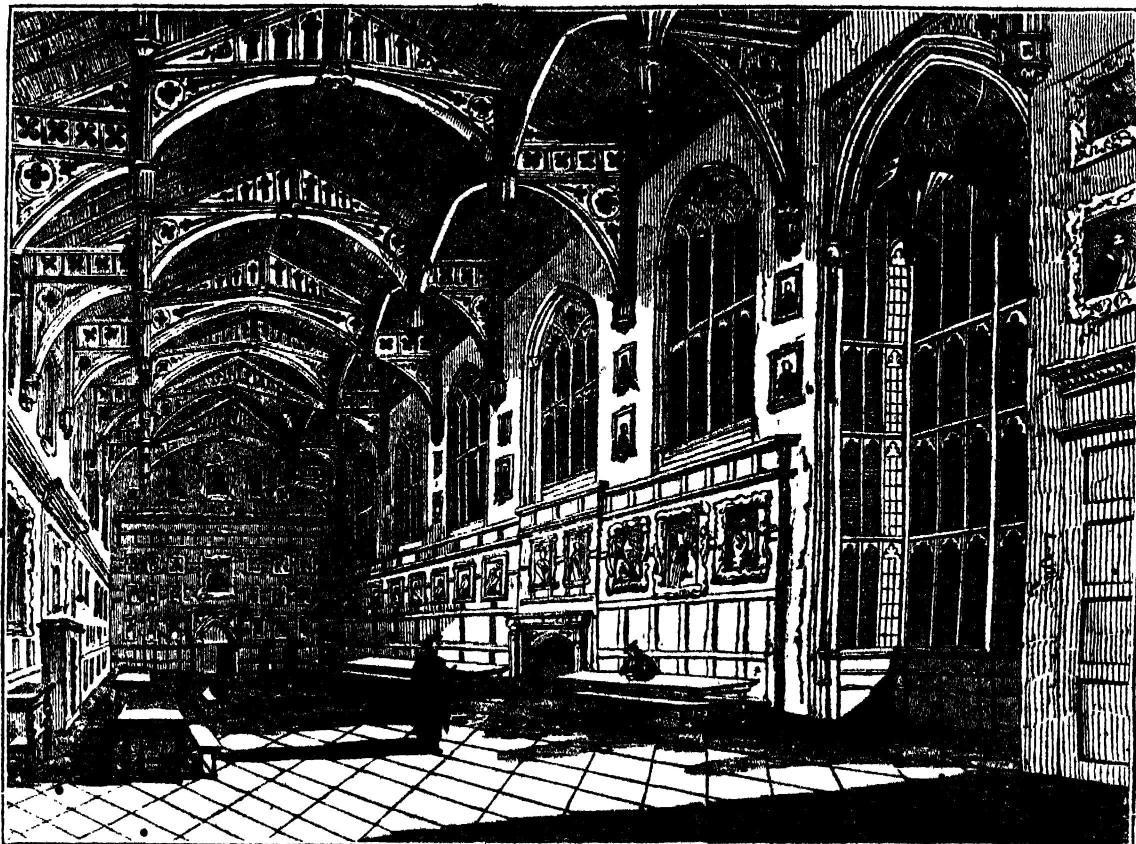
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OXFORD—No. II.



[Interior of Christ Church Hall, from an original Drawing by W. A. Delamotte.]

The University of Oxford, as a corporate body, has been legally known, since the reign of Elizabeth, by the style of "The Chancellor, Masters, and Scholars of the University of Oxford." Of the general government it is not necessary to say much, as it would not have more than a local interest. The principal officers are:—the *Chancellor*, an office at present held by the Duke of Wellington;—the *High Steward* (Lord Eldon);—the *Vice-Chancellor*, who usually holds the office for four years, and appoints four *Pro-Vice-Chancellors*, who are changed annually;—two *Proctors*, a *Public Orator*, and numerous *Professors* and *Lecturers*.

Each separate college and hall has also a president of its own, variously, in different colleges, called Master, Rector, Principal, President, Provost or Warden. They are elected for life, and invested with full powers for the efficient government of their respective societies. They may be married men, which is not the case with the fellows of the several colleges, who cease to be such if they marry. Fellows and scholars in a college are wholly, or in part, supported from the revenues of the colleges with which they are connected; and the University, taken collectively, thus supports about one thousand of the members on its books. The fellows, with the master, have a proprietary interest in the college, and, except at Wadham College, they hold their fellowships for life, unless they receive some equivalent preferment, or contract a marriage. The value of fellowships varies greatly in different colleges; some afford a sufficient provision, while others only yield a small assistance. Scholars are simply students, who receive a certain annual sum for a given number of years—generally four years: the halls have no fellowships. These scholarships and fellowships are, in effect, premiums placed at the disposal of a college to enable it to reward and encourage eminent acquirements; but the efficacy of this encouragement is somewhat impaired by the donors having, in many instances, restricted the fellowships to the natives of particular counties, or even parishes, or to those educated at particular schools, whence it often happens that not the most meritorious of all the students, but only the most meritorious of a limited number, can be properly encouraged.

We now proceed to furnish a necessarily brief account of each college and hall of which the University of Oxford is composed.

Merton College.—The priority of foundation is disputed between this and University College; but there is no room to doubt that this is the oldest in point of legal establishment. It was founded about the year 1264, by William de Merton, Lord Chancellor, and afterwards Bishop of Rochester, for the maintenance of twenty scholars and three chaplains. The buildings were commenced in 1260, and finished in the year above-

mentioned, two years after which the first officers were appointed. The number of students has varied very much with the revenues of the college; at present the society consists of a warden, twenty-four fellows, fourteen post-masters, two chaplains, and two clerks, besides other students. The warden is chosen from among the fellows, who present three of their number to the Archbishop of Canterbury, who appoints one of them to the office. The natives of ten dioceses are ineligible for fellowships in this college.

Merton College is situated in John-street, to the east of Corpus Christi. Its buildings are arranged round three courts or quadrangles. The outer court to the street was rebuilt in the year 1589, with the exception of the tower and gate-house, which were constructed in the early part of the fourteenth century. This court contains the warden's lodgings, some parts of which are said to be coeval with the original edifice. A flight of steps in this court conducts to the hall, which is only remarkable for the fact that Queen Elizabeth and her Privy Council were feasted there in 1592. The most striking object in this court is the east window of the chapel, which is a gothic structure, rebuilt about the beginning of the fifteenth century. Its painted windows and other decorations have suffered much at different times from the zeal or wantonness of the rabble; but altogether it is still one of the richest specimens of gothic workmanship remaining to us. The chapel contains monuments to Sir Thomas Bodley and Sir Henry Saville. The first court opens by a noble arch into a large inner or garden court, which was completed at the expense of the college in 1610. It is in that mixed style of architecture which was fashionable at that period, the south gate of the quadrangle being surmounted by a specimen of the four principal orders. The inner court is of ancient date, and is supposed to have been entirely built about the same time with the library, which forms its south and west sides. This library was founded in 1376 by the Bishop of Chichester, and is the oldest structure distinctly appropriated to the purposes of a library in the kingdom. Merton, therefore, affords the example not only of the first regular college, but the first library in this country. The visitors in the reign of Edward VI. took away and sold or destroyed a great number of valuable manuscripts and printed books belonging to this library; but when it was restored by Sir Thomas Bodley, many of those which had fallen into the hands of private individuals were recovered.

University College.—This college is popularly considered entitled to claim King Alfred for its founder. But as we have already stated the apparent amount of this monarch's patronage of the schools at Oxford, it is now only necessary to state that University College, as such, resulted from the bequest of William of Durham, Rector of Wearmouth, who died in 1249, leaving a sum of money to provide a permanent endowment for natives of his own county. At first the funds were appropriated to the support of a limited number of individuals selected from the different schools: they remained subject to their respective schools until 1280, when they were formed into an independent society under certain limitations, and twelve years afterwards their privileges were confirmed and enlarged by statute. This college, in its progress, has been much favoured by different benefactors, one of the most considerable of whom in modern times was Dr. Radcliffe, who, besides rendering munificent assistance towards improving the college buildings, instituted and endowed two travelling fellowships for students in medicine. Each fellow receives 300*l.* a year for ten years, the first five of which he is required to spend abroad. The foundation consists of a master, twelve fellows, eighteen scholars, with some exhibitioners, besides other students. There is in the chapel a fine monument by Flaxman, to the memory of Sir W. Jones, the distinguished Orientalist. The college principally consists of two quadrangular courts. The west court was built at various times between the years 1634 and 1675; it is one hundred feet square, and has the chapel and hall on the south side. The other court, which was chiefly erected by Dr. Radcliffe, has only three sides, the fourth opening to the garden of the master, whose apartments are in this court. Above the gateway of this court, on the outside, is a statue of Queen Mary II., and another within of Dr. Radcliffe: the gateway of the other court has a statue of Queen Anne without, and one of James II. within. The two quadrangles form a grand front towards the High Street, of about 260 feet in length, with a tower over each gateway at equal distances from the extremities. The library of this college contains a valuable collection of manuscripts and printed books. The Common Room contains Wilton's fine bust of King Alfred, from a model by Rysbrack; and portraits of Henry IV. and Robert Dudley, Earl of Leicester, *burnt in wood*, by Dr. Griffiths; the altar-piece in the chapel is a copy, similarly executed, of Carlo Dolce's Salvator Mundi.

Balliol College.—Sir John Balliol, of Barnard Castle in the county of Durham, the father of John Balliol, King of Scotland, commenced the foundation of this college about the year 1263, intending it to maintain sixteen poor scholars of Oxford. He did not live to carry his intentions fully into effect, but they were completed by his widow Dervorgille, who settled the scholars in a messuage, which she purchased and prepared for them on the site of the present college, and endowed the establishment with lands in Northumberland. At first, however, the allowance for each scholar amounted but to 8*d.* a week, or 27*l.* 9*s.* 4*d.* a year for the whole number. This seems to have been inadequate even in those times; but benefactors soon arose, and their united contributions raised the establishment to a considerable degree of opulence. It at present consists of a master, twelve fellows, and fourteen scholars, besides other students. There are also a considerable number of exhibitions, ten of which are for natives of Scotland. This college alone enjoys the privilege of electing its own visitor.

The buildings of this college were erected at various times, and are chiefly arranged around a quadrangle, which is 120 feet long, and 80 broad in the interior. The street-front presents much irregularity of structure. Over the entrance, in the centre, is a fine square embattled tower, with an oriel window in front, on each side of which is a highly enriched and canopied niche. This gateway is also decorated with the arms of Balliol: the buildings to the east and west of the tower were constructed at the beginning of the last century, and do not at all harmonise with the older portions of the college. The same dissimilarity is exhibited within the court, the northern side of which contains the chapel and library. The library was formerly considered one of the best in the University; and, previously to the Reformation, was particularly rich in manuscripts. The collection of printed books is still valuable and extensive, but is exceeded by those of many other colleges.

Exeter College.—This college was founded, in the year 1314, by Walter Stapledon, Bishop of Exeter, Lord Treasurer of England, and Secretary of State to Edward II., for a rector and twelve fellows, all of whom were to be elected from his own diocese. It was originally called Stapledon Hall; but Edward Stafford, also Bishop of Exeter, who added two fellowships in 1404, obtained leave to alter the name to that which it at present bears. The foundation has since been much extended, and at present consists of a rector, twenty-five fellows, and nineteen scholars and exhibitioners. The members on the books in 1834 were 302, of whom 123 were members of Convocation.

The buildings of this college encompass a single quadrangle of 135 feet on each side. The principal front facing the street is 280 feet in length, and is divided by a gate of rustic work surmounted by a tower with Ionic pilasters, supporting a semi-circular pediment, in the area of which are the arms of the founder on a shield surrounded with festoons. More uniformity prevails in the architecture of this college than in any of those already noticed, and its appearance on the whole is simple and pleasing. The chapel, which occupies a considerable portion of one side of the quadrangle, and was completed in 1624, is a neat and solid edifice in the later pointed style, and possesses the peculiarity of having two aisles. The present hall was built a few years previously, and the library, then the only remaining part of the original building, was taken down and rebuilt in a plain but neat style in 1778.

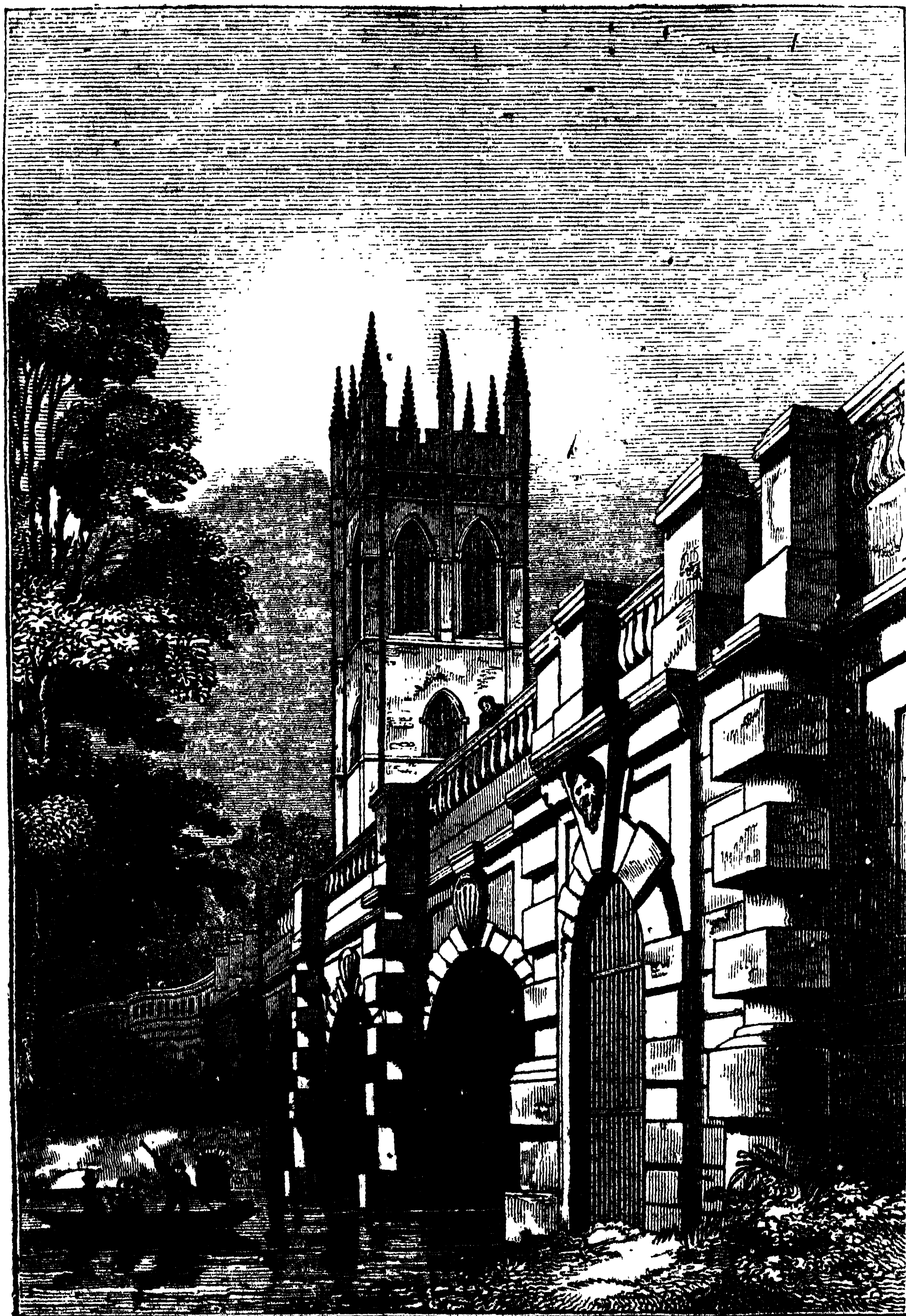
Oriel College.—This college was founded about the year 1326 by Adam de Brome, almoner of Edward II. This king is commonly considered the founder, for which there seems no other reason than that Brome surrendered it to his master in the hope of procuring his powerful favour and protection for the infant establishment, in which expectation he was not disappointed, though it appears that the king's patronage was limited to favours which involved no cost to himself. The original foundation was for a provost and ten fellows; but the society at present comprehends a provost, eighteen fellows, and fifteen exhibitioners. The members on the books of this college in 1834 were 30[illegible], of whom 153 were members of Convocation. The members were originally placed in a tenement purchased by Brome, where St. Mary's Hall now stands; but they were soon removed from thence to a messuage called La Oriole or Oriel, given them by Edward III., in the confirmation of whose reign additions were made to complete the quadrangle, the whole of which was enlarged and rebuilt in the early part of the seventeenth century, and now exhibits considerable uniformity of style and construction. The front towards the street is divided by a square tower which rises over the entrance, and is ornamented with a bay or oriel window, probably to give significance to the name the college bears. The hall faces the gateway, and is approached by a flight of steps under a portico, surmounted by statues of Edward II. and Edward III. in niches, with the virgin and child in another niche immediately above. The library is the only part of the buildings of recent erection. It was built from the designs of Wyatt, and executed under his direction.

Queen's College.—This college was founded in 1340 by Robert Egglesfield, confessor to Philippa, queen of Edward III. It was called after her "Queen's College," which seems to imply that she had some share in the foundation; at any rate she soon took it under her protection, and exerted herself to promote its welfare. The founder, who was a native of Cumberland, was particularly anxious for the promotion of education in the border counties, where, to use his own expression, "an unusual scarcity of literature prevailed;" the original establishment therefore was for a master and twelve fellows to be chosen from the counties of Cumberland and Westmoreland. In its progress this college has been particularly patronized by the queens of England, after the example of Philippa, and through their contributions, and those of other benefactors, it now supports a provost, twenty-four fellows, two chaplains, eight taberders (so called from a taberdum or short gown which they formerly wore), twenty scholars, two clerks, and four exhibitioners. The members on the books, in 1834, were 353, of whom 175 were members of Convocation.

This magnificent college, which is situated opposite University College, in High-street, consists of two courts, divided by the hall and chapel and forming an oblong 300 feet long and 220 broad. The whole of the buildings, with the exception of the library, were erected during the last century, in the Grecian style of architecture. The principal front, towards the street, has in the centre a large gateway, over which is a statue of Queen Caroline, the consort of George II., under a cupola, supported by pillars, the construction of which is by some considered rather too heavy for the place it occupies. This gateway leads into the first court, which was executed by Hawksmoor, from a design either by Sir Christopher Wren or Dr. Lancaster, and bears, in general, a strong resemblance to the Luxembourg palace in Paris. It is surrounded by a cloister, except on the north side, which is occupied by the chapel and hall, and finely finished in the Doric style. In the centre, over a portico leading to the north court, is a handsome cupola, supported by eight Ionic columns. The library is in the other court, and was built in 1694, its principal room is one of the largest in the University, being 120 feet in length, and of corresponding breadth. Among its curiosities, it contains a very ancient portrait on glass of Henry V., who received his education at this college, and another of Cardinal Beaufort.

New College.—This college owes its establishment to William de Wykeham, Bishop of Winchester, and Lord High Chancellor, in the reign of Edward III., one of the most illustrious characters of the age in which he lived. He originally established the society about the year 1373, and placed the members in hired halls until the buildings of the college were completed in 1386, when they removed to the new premises. In the same year, Wykeham began his collegiate establishment at Winchester, which was intended, and still continues, to serve as a nursery to this at Oxford. The original foundation was so ample that, with some subsequent additions, it has become one of the wealthiest societies in Oxford. It now consists of a warden, seventy fellows and scholars, with priests, clerks, and choristers, for the service of the chapel. The fellows and scholars are annually elected from the college at Winchester; the founder's kindred become actual fellows on their first admission, the others are scholars on probation till the expiration of two years. We perceive from the list that 27 of the 70 claim kindred with William de Wykeham. In its original charter, this college is called the "College of St. Mary of Winchester," but having popularly received the name of "New College" at the time of its erection, it has retained that appellation to the present time. The members on the books of this college were 162 in 1834, of whom 69 are members of Convocation.

New College is separated from Queen's College by a narrow lane on the south. The buildings are extensive and diversified. The original plan consisted of a spacious quadrangle, including the chapel, hall, and library, with a small quadrangle adjoining called the Cloisters. The other buildings, which form the garden court, constitute an addition to the original design, and were built in 1684, either in imitation of the palace at Versailles, or of the king's house at Winchester. The approach to the great quadrangle is by a portal with a tower above, one of the ornamented niches of which still retains the sculptured effigy of the founder. The chapel and hall, on the north side of the court, present as fine an elevation as any in the University. The former, which is perhaps, taken singly, the most splendid building in the University, is remarkably beautiful and chaste in the interior decorations, and its windows afford a magnificent display of painted glass in four different styles of execution. The great west window exceeds all the others both in design and colouring, and probably is not surpassed by any similar work in this country. It was executed by Jervais, from finished cartoons by Sir Joshua Reynolds, and is divided into two parts, the higher representing the



[Magdalen Bridge and the Tower of Magdalen College, from an original Drawing by W. A. Delamotte.]

Nativity, and the lower figures emblematical of the Christian and cardinal virtues. Among the curiosities preserved in this chapel is the superb and costly crosier of the founder. It is about seven feet high, of silver, gilt and enamelled, on which, instead of the holy lamb usually placed in the circle of crosiers, is a figure of Wykeham himself, in a kneeling posture.

Lincoln College was founded about the year 1479, by Richard Fleming, bishop of Lincoln, for a rector and seven fellows. This original foundation has been much extended by subsequent benefactions, so that the society now consists of a rector, twelve fellows, eight scholars, twelve exhibitioners, and a bible-clerk. It has 132 members on its books, of whom 74 are mem-

bers of Convocation. The Reverend John Wesley was a fellow of this college, within the walls of which the foundation of Methodism was laid. The principal buildings of the college compose two quadrangular courts; the first, which was begun soon after the death of the founder by Rotherham, his successor in the see of Lincoln, still retains much of the character of ancient collegiate structures. It contains the hall, the library, the rector's apartments, the common rooms, and some apartments for scholars, all of low elevation, and arranged with great simplicity. The other quadrangle was erected about the year 1612, with the exception of six sets of rooms, which were added in 1759. The principal ornament of this court is the chapel,* which is a well proportioned and elegant Gothic edifice, built in 1631 at the expense of the then Bishop of Lincoln, Dr. Williams, afterwards Archbishop of York.

All Souls' College was founded in the year 1437, by Henry Chicheley, Archbishop of Canterbury, who prevailed on King Henry VI. to assume the title of cofounder. Wykeham's College, of which Chicheley had been a fellow, appears to have been the model he kept in view in this establishment, which is called in the charter "The College of the Souls of all faithful people deceased, of Oxford." It was originally intended for a warden, forty fellows, two chaplains, and a clerk. There are now four bible-clerks; but in other respects the original numbers are preserved. There were 99 members on the books in 1834, of whom 67 were members of Convocation.

The buildings of this college form two large quadrangles, one of which was erected by the founder, and, although now much modernized, preserves many of its original features. Two niches over the principal entrance contain large statues of Henry VI. and Chicheley.* The other quadrangle, which is of comparatively modern erection, exhibits, especially when viewed from the west entrance, one of the most attractive scenes which Oxford can boast. The style is of the mixed Gothic. The chapel and hall are on the south side of this court, and the library on the north. The library, which was begun in 1716 and completed in 1756, contains perhaps the largest room appropriated to the purpose in England, it being 198 feet in length and 32½ in breadth. Dr. Young, the author of the 'Night Thoughts,' laid the foundation of this structure, which owes its erection to the munificence of Colonel Codrington, who bequeathed 10,000*l.* for the purpose, besides leaving to the society books then valued at 6000*l.*

Magdalen College was founded by William of Waynflete, Bishop of Winchester, in the year 1457, for a president, forty fellows, thirty scholars, called *demies*, a divinity lecturer, with chaplains, clerks, and choristers for the service of the chapel. The members of the college still remain the same as at the time of the foundation, with the addition only of gentlemen commoners, for no commoners are admitted. The members on the books of this college in 1834 were 158, of whom 115 were members of Convocation.

Magdalen College is bound by its statutes to entertain the kings of England and their sons when at Oxford, whence its hall has often been the scene of royal and princely festivities. Magdalen College is situated at the east entrance to Oxford, and forms a noble object as the traveller crosses the bridge over the Cherwell. This bridge and the tower are shown at page 44. The buildings, as designed by the founder, compose two quadrangular courts, one of small and another of large dimensions. The entrance to the first is through a modern Doric portal that does not harmonize well with the rest of the structure. In front of this court is the original entrance, now disused, to the larger quadrangle, under a venerable Gothic tower, which is adorned with statues of the founder, of Henry VI, and of St. John the Baptist and Mary Magdalen, in canopied niches of exquisite workmanship. The other court is nearly as the founder left it, the south cloister being the only portion that has been added since his death. This court contains the chapel, hall, and library, with apartments for residence. Round the whole of this court is ranged a series of hieroglyphic figures, which have occasioned a good deal of speculation among topographers. Besides the two courts there is a tower, and several other ranges of buildings belonging to the college, which have been erected at different periods, and were not included in the founder's design. The tower, which attracts notice by the beauty of its proportions, was finished in 1498: it is said to have been designed by Cardinal Wolsey, a report which seems to have originated in the fact that he was bursar of the college at the time. Addison was a fellow of this college, and a walk is still shown which he is said to have been in the habit of frequenting.

Brazen Nose College was founded in the year 1509 by William Smyth, Bishop of Lincoln, in conjunction with his friend Sir Richard Sutton, knight. It was originally intended for a principal and twelve fellows; but eight other fellowships and several scholarships have since been added by other benefactors. The number of members on the books of this college in 1834 was 412, of whom 234 were members of Convocation. With regard to its ludicrous* name, it is said to have arisen from the circumstance that the founders erected their house on the site of two ancient hostels or halls, one of which was called Brazen Nose Hall, from some students who were removed to it from a seminary in the temporary University of Stamford, which was so denominated on account of an iron ring fixed in a nose of brass, and serving as a knocker to the gate. The buildings of this college constitute the west side of Radcliffe Square, the front towards which is an extensive range with a square battlemented tower in the centre, ornamented in the Gothic style, of which it is a purer specimen than any other part of the building offers. It was originally twice the height of the other parts of the front, but an attic having been added in the time of James I., the tower now seems disproportionately low. With the exception of this attic, the front probably appears in nearly its original state. The buildings of the college are arranged in the interior around a large court and a small one; the large court, which contains the hall and chambers, is ancient, with the exception of the attic. The small court contains the library and chapel erected in the seventeenth century, as some say from plans furnished by Sir Christopher Wren, who was then a young man at college. The architecture is of the mixed kind; arched windows and battlements being opposed by Corinthian pilasters and capitals.

Corpus Christi College was founded in 1516 by Stephen Fox, Bishop of Winchester, Lord Privy Seal, for a president, twenty fellows, twenty scholars, and two chaplains. The members on the books in 1834 were 127, of whom 82 were members of Convocation. This college is situated near the back gate of Christ Church, on the south side of Oriel College. The principal buildings of the college are comprised in a spacious quadrangle, which is entered by a gateway, under a lofty square tower in the centre of the principal front. It contains the chapel, hall, and library; the last has a statue of the founder in his pontifical robes, and it is particularly rich in printed books and manuscripts; among the former of which are some of the finest and rarest of the early classics.

Christ Church College is the largest and most magnificent foundation at Oxford, and owes its origin to Cardinal Wolsey, who in 1524 and 1525 obtained a bull from the pope, authorizing him to suppress twenty-two inferior priories and nunneries, and apply their

revenues in support of his intended college. The original plan of this foundation provided for one hundred and sixty persons, who were to apply themselves to the study of the sciences at large, as well as to polite literature. The cardinal settled on this society a clear annual revenue of 2000*l.*; and commenced the present building for the use of the members, under the name of Cardinal's College. After his disgrace and death, the king, who had in the first instance seized its revenues and arrested its progress, was induced to patronise the institution; and re-endowed it for the support of a dean and twelve canons, under the name of "King Henry the Eighth's College." The establishment afterwards underwent other alterations, which gave it the character of a cathedral establishment; and its chapel was made the cathedral church of the bishopric of Oxford, which it still remains, although still maintaining its character as a college chapel. At present the foundation consists of a dean, 8 canons, 101 fellows, called "students" at this college, and eight chaplains. The members on the books of the college are 974, of whom 475 are members of Convocation.

To give our readers an idea of the buildings of this extensive and splendid establishment would much exceed our limits. The cathedral has already been noticed: the buildings altogether occupy two large and two small quadrangles. The great west quadrangle was chiefly the work of Wolsey, and is an interesting indication of what he intended the whole to have been if he had lived to complete his design. It is entered by the gateway of the principal front, which extends 382 feet, having in the centre a stately tower begun by Wolsey, but only completed in 1681 by Sir Christopher Wren. The hall and kitchen are on the south side of this quadrangle;—the hall is one of the finest in the kingdom, measuring 115 feet by 40, and 50 feet in height: its roof is of elaborately carved oak, and the sides, of panelled wainscot, are decorated with an extensive collection of portraits, some of which are curious. Of this hall a representation is given in page 41. The parliamentary visitors sat in this hall, in 1648, to eject such members of the University as refused to submit to their authority. The other large quadrangle, termed "Peckwater Court," was erected at the commencement of the last century, and has the library on its south side. This noble building, which was commenced in 1716, but not completed until 1761, is 141 feet long in front, and on the basement story contains, besides a portion of the books, a collection of pictures,—not of the first order of excellence,—bequeathed to the college by General Guise in 1765. The library is very rich in manuscripts, prints, and coins.

Trinity College was originally founded and endowed by Edward III., Richard II., and the priors and bishops of Durham. As it was under the patronage of the latter, it obtained the name of Durham College, though dedicated from the beginning to the Holy Trinity, St. Mary, and St. Cuthbert. Being classed with religious houses at the Reformation, it was suppressed; and Sir Thomas Pope, having purchased the site and buildings, began and endowed a new foundation, in 1554, for a president, twelve fellows, and twelve scholars. To this four exhibitions have since been added,—one for a superannuated Winchester scholar; but, generally, the original foundation was so ample that few benefactors have thought the college required their assistance. The members on the books, in 1834, were 256, of whom 107 were members of Convocation. The buildings of this college are disposed in two courts; the first, besides apartments for the president and some of the fellows and scholars, contains the chapel, hall, and library. The other court, which is wholly occupied by the lodgings of the students, was planned by Sir Christopher Wren, and is said to be one of the first specimens of modern architecture that appeared in the University.

St. John's College was founded in 1557 by Sir Thomas White, alderman and lord mayor of London, who appropriated part of the wealth accumulated by industry and success in mercantile pursuits to the establishment of this college for a president and fifty fellows and scholars. All the fellows except thirteen are elected from the Merchant Tailors' School in London, of which corporation Sir Thomas was a member. The members now on the books of this college are 218, of whom 118 are members of Convocation. The buildings of this college have been erected at different periods: they are chiefly arranged in two quadrangles, one of which still retains part of the tenements of St. Bernard's college, the site of which it occupies. In this division are the hall and chapel, with apartments for the president and the fellows and scholars. The principal entrance is under a square tower, adorned with a statue of St. Bernard, placed in a richly-canopied niche. On the east side is a passage leading to the other quadrangle, which was erected at the sole expense of Archbishop Laud from the designs of Inigo Jones. The east and west sides of it are built on a cloister supported by eight pillars, over which are busts representing the four cardinal virtues, the three Christian graces, and religion. In the centre of each cloister there is a spacious gateway of the Doric order, surmounted by a semicircular pediment of the Ionic and Corinthian orders, and having a statue on either side between the columns. These statues represent Charles I. and his Queen, and were designed and cast in brass by Fanelli of Florence. The library, which is in this quadrangle, is one of the largest and best furnished in the University, and contains a valuable collection of books, manuscripts, and antiquarian curiosities. The gardens also of this college, though small, are much admired.

Jesus College was founded by Hugh ap Rice, or Price, D.C.L., who observing that his countrymen, the natives of Wales, were much neglected in college endowments, petitioned Queen Elizabeth to found a college more particularly for their benefit. She accordingly granted a charter, dated in 1571, which declared the present name of the college, stated that the society was to consist of a principal, eight fellows, and eight scholars, and authorized Dr. Price to spend his money on the establishment. This was the first college founded by a Protestant; but the queen seems to have rendered no other practical assistance than by giving a quantity of timber from the royal forests to aid the building. The institution has since been assisted by other benefactors, and it now consists of a principal, 19 fellows, and 18 scholars, besides exhibitioners. The number of the members on the books in 1834 was 157, of whom 57 were members of Convocation.

The buildings are contained in two quadrangles, the largest of which, entered from the street, contains the chapel on the north side, and the hall on the east; the other sides are occupied by apartments three stories high. The front towards the street was rebuilt in 1756, and has a heavy and uninteresting appearance. The inner quadrangle was built about the middle of the seventeenth century, and contains, on its west side, the library, which has a good collection of books, and some curiosities, among which is a silver bowl, weighing 278 ounces, and capable of holding ten gallons; a metal watch, given by Charles I.; and a huge stirrup, said to have been used by Queen Elizabeth.

Wadham College was founded, in 1613, by Nicholas and Dorothy Wadham, for a warden, fifteen fellows, and an equal number of scholars, with two chaplains, and two clerks. It is peculiar to this college that the

fellows are obliged to resign on the completion of eighteen years from their becoming regent masters, if they have not been fortunate enough to have previously obtained preferment. The number of members now on the books is 235, of whom 78 are members of Convocation.

The buildings of Wadham College are all comprehended in one large quadrangle. The hall is one of the finest rooms in Oxford, and the library and chapel both do credit to the liberality of the founder. In the middle of the eastern side of the quadrangle is a portico, in four compartments, decorated with statues, in canopied niches, of the founder and foundress, and of James I. The entrance to the college is by a gateway under a central tower. The building cost 10,816*l.* 7*s.* 8*d.*, to which was added somewhat more than 500*l.* for plate and the furniture of the kitchen. The whole of this was paid by Dorothy Wadham, who survived her husband, and devoted herself to fulfilling his benevolent intentions.

Pembroke College, originally Broadgate Hall, was converted into a college by the joint munificence of Thomas Tesdale and Richard Wightwick; for although in the charter, dated in 1624, King James I. is called the founder, and the Earl of Pembroke, then Chancellor of the University, the godfather, yet it does not appear that either of these personages assisted the foundation otherwise than by their patronage. It was intended for a master, ten fellows, and ten scholars; but the fellows have since been increased to fourteen, and the scholars and exhibitioners to twenty-one. The number of members now on the books is 189, of whom 97 are members of Convocation. Dr. Samuel Johnson entered as a Commoner in 1728; his apartment is that upon the second floor, over the gateway. The college forms two small courts, comprehending some portions of the old Broadgate Hall. The principal court, which was erected at different periods during the seventeenth century, is uniform and simple in its architecture. The front, which was only completed in 1694, is an unadorned elevation, with a low tower over the entrance in the centre. The chapel is a small but elegant building of the Ionic order, and is richly ornamented within.

Worcester College was founded in 1714, under the will of Sir Thomas Cooke, Bart., who died in 1702, leaving 10,000*l.* either to found a new college or to enlarge one already existing. The trustees hesitated many years which plan to adopt, but the money having in the mean time accumulated to 15,000*l.*, they determined to found the present establishment for a provost, six fellows, and six scholars, to be chosen from certain schools in the county of Worcester. Fifteen other fellowships and ten scholarships have since been added. The members on the books in 1834 were 218, of whom 92 were members of Convocation. The college is situated on the western side of the city upon an eminence near the river Isis. The buildings form a court, the south side of which is still occupied by a range of old apartments, old Gloucester Hall having been merged in this establishment, but its other divisions are all of modern erection, and comprise a chapel, hall, library, and the usual apartments. The architecture of these parts, though simple, possesses considerable grandeur. The library is supported by a cloister in the front towards the court, and is chiefly remarkable for a valuable collection of architectural books and manuscripts.

HALLS.—Besides the colleges there are five halls at Oxford, which offer a very near approximation to the establishments which existed previously to the period when the plan of endowed colleges came into operation. Thus they are not endowed with estates, but are simply houses under the government of a principal for the education and residence of students. As it regards discipline and privileges, they are, however, on the same footing with the other societies. As they have no funds but such as proceed from tuition and the rent of the chambers, their prosperity depends upon their efficiency and the reputation of the principals and instructors.

St. Alban's Hall, which is the most ancient of the existing halls, is situated on the east side of Merton College. The name is derived from Robert de Sancto Albano, a burgess of Oxford in the reign of King John. In the time of Henry VI. it was united to Nunne Hall; and Henry VIII. granted both the halls conjoined, in the name of Alban Hall, to his physician, from whom it passed to different proprietors, and is now the property of the warden and fellows of Merton College. The members on the books are 38, of whom 9 are members of Convocation. The buildings form a quadrangle, plain in its architecture, but commodious in its internal arrangements.

Edmund Hall is said to be so called from St. Edmund, Archbishop of Canterbury in the reign of Henry III., who was canonized by Pope Innocent IV. At the dissolution it belonged to Oseney Priory, and soon after came into the possession of Queen's College, and was renewed as a place of study, under the auspices of that institution, to which it still continues attached. During the two last centuries the buildings have been much extended, chiefly by the liberality of its own members, and those of Queen's College. The library, which was begun in 1680, has been enriched by several collections of books and manuscripts. The number of members on the books in 1834 was 92, of whom 45 were members of Convocation.

New Inn Hall is in a very low state, though apparently in a reviving condition. Up to a recent period it had not had any students for many years; but it has lately been restored to the purposes of academical instruction by the present principal, who has erected at his own expense a handsome building, with suitable offices, for the reception of students. It has now 28 members in its books, of whom one is a member of Convocation. This hall was at one time famous for students in civil and canon law, and produced many eminent characters in that faculty. In 1642 it was occupied as a mint by Charles I., who here melted down the plate presented to him by the University.

St. Mary's Hall was anciently conveyed to the rectors of St. Mary's Church for a parsonage house, and remained thus appropriated until 1325, when Edward II. gave it, with the advowson of the church, to the society of Oriel College, who, in 1333, converted it into an academical hall under its present name. The members on the books in 1834 were 41, of whom 20 were members of Convocation. The buildings are arranged in the form of a quadrangle, containing a hall, chapel, and apartments for the principal and students, all of which have either been rebuilt or much improved within the last century.

St. Mary Magdalen Hall is the most considerable of the whole number. The original building was founded as a grammar school in 1480, by William Waynflete, the founder of Magdalen College. It was first called Grammar Hall, but received its present name on being enlarged and placed on the same footing with the other halls. This hall appears to have been generally in a flourishing condition, and at one time is said to have had nearly 300 students, though it is difficult to conceive how so many could have been accommodated within its walls. Some exhibitions have been established for the benefit and encouragement of the students: the members on the books were 173 in 1834, of whom 53 were members of Convocation. The old hall having become insufficient for the accommodation of the members, the society obtained an Act of Parliament in 1816, authorizing them to take possession of



[New University Printing-office.]

Hertford College, formerly Hart Hall, in New College Lane, which had become extinct as a collegiate establishment. Accordingly the principal and other members of Magdalen Hall removed thither in 1822, after the necessary improvements and preparations had been completed.

It may be proper to conclude this account by stating that the sum of all the numbers we have given of the members of the several colleges and halls, in 1834, is 5290, of whom 2519 are members of Convocation.

The new printing-office, of which the above is a representation, has been already alluded to in vol. iii. p. 423.

*** The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.
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WILD DUCKS.—No. I.



[Method of Capturing Wild Ducks in the Fens of Lincolnshire.]

The wild duck or mallard is nearly two feet in length, two feet ten inches in extent of wing, and weighs from two and a half to three pounds. The bill is of a greenish yellow colour; the head and upper part of the neck are of a glossy changeable green, terminated in the middle of the neck by a white collar with which it is nearly encircled. The scapulars are white, barred or rather undulated with minute lines of brown; the back is brown, and the rump black, glossed with green. On the wing coverts two transverse white streaks edged with black enclose a broad stripe of a lucid violet-green colour. The lower part of the neck and breast is of a chestnut colour; the belly is pale grey, crossed with numerous transverse dusky lines. The tail consists of twenty feathers and is pointed in shape; the four middle are of a greenish black colour and curve upward in a remarkable manner; the others as usual of a grey brown, margined with white. Legs orange.

The female is very plain. The bill is shorter and smaller than that of the male; and the ground colour of the plumage is pale reddish brown, speckled with black. The violet-green stripe on the wings is as in those of the male; but none of the tail feathers are curved. The young male birds, previously to their first moult, resemble rather the female than the male parent. In a domestic state some individuals appear in nearly the same plumage as the wild ones; others vary greatly from them as well as from each other, and are marked with nearly every colour; but all the males, or drakes, still retain the curled feathers of the tail. The tame duck is, however, of a more dull and less elegant form and appearance than the wild, domestication having deprived it of its lofty gait, long tapering neck, and sprightly eyes.

Wild ducks inhabit Europe, Asia, and America, in summer frequenting the lakes and marshes of the north, and in autumn migrating southward in large bodies, and spreading themselves over the lakes and marshes of more temperate latitudes. Considerable numbers of them return northward in spring; but many straggling pairs, as well as former colonists, stay in this country to rear their young, which become natives, and remain throughout the year in the marshy tracts of the British isles. Large flocks visit Egypt in November after the inundation of the Nile. In an opposite direction of the globe, the lakes in the Orkneys form one of their great resorts in winter; and when the lakes happen to be frozen, they betake themselves to the shores of the islands. In these districts they may be seen in great multitudes, and on the report of a gun they rise like clouds. They are also known to abound on the lake of Zirknitz in Carniola, where they are often swallowed

entire by the huge pikes which frequent that remarkable piece of water. On the approach of a storm they issue from the caverns in the rocks, and fly about the country, where they are soon captured by the peasants; many of them are killed with clubs at the very openings of the cavities, being dazzled by the light of day. In England they abound most in the fens of Lincolnshire, where prodigious numbers are annually taken in the decoys. Particular spots in the fens are let to the fowlers at a rent of from 5*l.* to 30*l.* a-year; and Pennant mentions a season in which 31,200 birds were captured in a single season in ten stations near Wainfleet, adding, that "the numbers taken in the decoys make them so cheap on the spot, that the decoy-men would be glad to contract to deliver the ducks at Boston for years at 10*d.* the couple."

Wild ducks are naturally very shy birds, and fly at a considerable height in the air, in the form of a wedge or triangle. Before they alight on any spot, they describe several turns round it, as if to reconnoitre it, and then descend with great precaution. They generally keep at a distance from the shore when they swim; and when the greater part of them sleep upon the water, with their heads under their wings, some of the party are always awake to watch over the common safety, and to apprize the sleepers of the approach of danger. The extreme wariness of these birds renders much patience and ingenuity necessary on the part of the fowler. They rise vertically from the water with loud cries; and in the night-time their flight over head may be known by the hissing noise which they make. They are more active by night than by day; indeed those that are seen by day have in general been roused either by a sportsman or by some bird of prey.

Wild ducks breed only once in the year, the pairing-time, commencing about the end of February or beginning of March, and lasting three weeks, during which period each couple lives apart, concealed among the reeds and bushes during the greater part of the day. The female generally selects a thick tuft of bushes, insulated in a pool or lake, for her breeding station, and binds, cuts, and arranges the bushes in the form of a nest; sometimes she makes her nest on heaths at some distance from the water, scraping together a heap of the nearest vegetables for the purpose:—a rick of straw in the fields occasionally serves her purpose. Latham says, that she has even been known to lay her eggs in a high tree, in the deserted nest of a magpie or crow; and he records an instance of one that was found at Etchingham, in Sussex, sitting upon nine eggs, in an oak, at the height of twenty-five feet from the ground, the eggs being supported by some small twigs placed crosswise. The female, during the incubation, usually plucks the down from her breast to line her nest, in which she frequently deposits sixteen eggs, which she generally covers when she leaves the nest for the purpose of feeding. Whenever she returns to it, she alights at some distance, and approaches it by winding paths; but when she has resumed her seat she is not easily induced to quit it. The male keeps watch near the nest, or accompanies and protects his mate in her temporary excursions in quest of food. All the young are hatched in one day, and on the following the mother leads them to the water; or if the nest be high, or at a distance from water, both parents convey them, one by one, in their bills or between their legs, and they are no sooner consigned to the water than they begin to swim about with the greatest ease, and to feed on insects. The mother-bird is a most attentive and watchful parent until her young progeny are able to fly: this is in about three months after their birth, and in three months more they attain to their full size and plumage.

The flesh of the wild duck is more delicate and juicy, and of a finer flavour, than that of the domestic. It is almost every where in high estimation as an article of food, and hence the ingenuity of man, in all the countries which it frequents, has been employed in devising stratagems for the capture of this most cautious and wily bird. We shall now proceed to furnish our readers with an account of some of the more remarkable of these stratagems, particularly of those which our woodcuts are intended to illustrate. Some of the methods of capturing the wild ducks in America, as described by Wilson in his 'American Ornithology,' are among the most singular resorted to in any country, and claim to be noticed in this place.

In some ponds frequented by these birds, five or six wooden figures, cut and painted so as to represent ducks, and sunk, by pieces of lead nailed to their bottoms so as to float at the usual depth on the surface, are anchored in a favourable position for being raked from a concealment of brushwood, &c., on shore. The appearance of these decoys usually attracts passing flocks, which alight and are shot down. Sometimes eight or ten of these painted ducks are fixed in a frame in various swimming postures, and secured to the bow of the gunner's skiff, projecting before it in such a manner that the weight of the frame sinks the figures to their proper depth; the skiff is then dressed with sedge or coarse grass, in an artful manner, as low as the water's edge; and under cover of this, which appears like a covey of ducks swimming by a small island, the gunner floats down sometimes to the very skirts of a whole congregated multitude, and pours in a destructive and repeated fire of shot among them. In winter, when detached pieces of ice are occasionally floating in the river, some of the fowlers on the Delaware paint their whole skiff or canoe white, and laying themselves flat at the bottom, with their hand over the side silently managing a small paddle, direct it imperceptibly into or near a flock, before the ducks have distinguished it from a floating mass of ice, and generally do great execution amongst them. A whole flock has sometimes been thus surprised asleep with their heads under their wings. On land, another stratagem is sometimes practised with great success:—a large tight hogshead is sunk in the flat marsh or mud, near the place where ducks are accustomed to feed at low water, and where, otherwise, there is no shelter. The edges and top are artfully concealed with tufts of long coarse grass and reeds, or sedge. From within this the fowler, unseen and unsuspected, watches the collecting party, and, when a sufficient number offers, sweeps them down with great effect.

Among the methods resorted to in different countries for the capture of wild ducks, one is so remarkable as to require particular notice. On the river Ganges in India, at Ceylon, and in China, a man wades into the water up to his chin, and, having his head covered with an empty calabash, approaches the place where the ducks are, and they, not regarding an object so commonly seen upon the water, suffer the man to mingle freely with the flock, when he has nothing to do but pull them under water by the legs, one by one, until he is satisfied, and then returns to the shore as unsuspected by the remainder as when he first came among them. For this purpose the earthen vessels used by the Gentoos, called kutcharee pots, which are thrown away as defiled after having been once used for cooking rice, are often employed instead of calabashes; and some authors state that hollow wooden vessels, with holes to see through, are sometimes used for the same purpose.

Our wood-cut exhibits the method of capturing wild ducks in the fens of Lincolnshire, a particular description of which, with another engraving, will be given in the next Number.

THE OSSETINIANS.

The passage of the mountains of Caucasus is considered an undertaking of some peril, not only on account of the natural difficulties of the road, but from the fierce and barbarous tribes of people by whom they are inhabited. Travellers, therefore, when they arrive in the neighbourhood, do not proceed on their way in detached parties, but wait for the post, which crosses the mountains once a-week under a strong escort. They commonly wait at the neat little town of Mozdok, on the river Terek, and within sight of the highest summits of the Caucasus. In exploring the neighbourhood of this town, the attention of the stranger will be drawn towards a small village of low houses formed of wattles covered with clay, while the outhouses appear to be plastered with cow-dung. They have all flat roofs, which serve for winnowing corn. In this village he will find himself among a people such as he has not hitherto seen. They are generally short and somewhat corpulent; and the dress of the men consists of a top-coat which reaches to their knees, and pantaloons of coarse woollen stuff, and commonly of a light brown colour. They wear on their heads a sheep-skin cap, which fits close, and is almost entirely flat. The women wear their hair in one long plait down their backs: they have generally a coarse handkerchief round their heads, and their trousers descend nearly to the ankles, but their feet are bare. Their upper dress consists of a sort of bed-gown with long close sleeves; and sometimes, when out of doors, they envelop themselves in a sort of sheet, but do not always keep it drawn over their faces. These people are Ossetinians, belonging to a tribe of the same name, whose proper seat is in the most elevated habitable parts of the Caucasian mountains, forming not the least considerable of several remarkable tribes that inhabit different portions of that extensive range. The remainder of our account will apply to this people as they are found in their native seats.

The Ossetinians are somewhat indistinctly divided into three sections by the character of their religious profession: some are Christians, others Moslems, and others Pagans. The distinction between them is not very definite, since both Christians and Mohammedans retain many Pagan feelings and practices, and there is a strong tendency among them to fall back upon their primitive idolatry. In fact, little more than a few imperfect rites and forms denote the difference of religious profession; but it is remarkable that they all equally assume to themselves individually a particular protecting Spirit, to whom they apply in calamity and danger, and of whom they solicit assistance in the settlement of domestic feuds, in the prosecution of warfares and marauding excursions, and even in the plunder of caravans and travellers. Those of the tribe whose villages are seen by the traveller as he crosses the mountains by the principal road, which follows the course of the river Terek on the north and of the Aragui on the south, belong almost exclusively to the Christian and Moslem portions of the tribe, principally the former. They are considered the most civilized portion, not only of their own tribe but of all the tribes who inhabit these mountains; which, if it be true, may in a great degree be owing to their great intercourse with the Russians, who have some small towns in their neighbourhood, and have established military stations through the territory, which was once theirs, and which is, in fact, still theirs, except immediately on the line of the road which the intruders have formed.

The villages of the Ossetinians are highly interesting and picturesque objects, as seen, from the distance, in the valleys, in the ravines of the mountains, and sometimes in apparently inaccessible situations upon steep declivities, and on the summits of tall cliffs. The huts are usually collected around the remains of some old stone tower, which in former times served to protect the passes from the inroads of hostile tribes. When more nearly examined, however, these villages are found to be composed of very mean and low flat-roofed huts, built of mud upon a foundation of stone. The light is admitted by the door and through a circular hole in the roof. This hole serves also as a chimney for the discharge of smoke. In the higher portions of their territory, however, they are not much annoyed by smoke, as fuel is very scarce, and a miserable fire composed of dry dung and a very little wood is a great indulgence. But, notwithstanding the mean huts in which they live, in those parts where the pass is narrowest and can be defended with the best effect, old castles and towers are found of considerable strength, and sometimes of very superior workmanship, erected generally on immense masses of rock or promontories, overhung sometimes by the gigantic cliffs of the parent mountain. Some of these were forts for the defence of the pass, and some were, and are still, used for the residence of the Ossetinian *mirzas* or chiefs.

The people chiefly appear to the stranger as engaged in pastoral or agricultural pursuits; and perhaps there is nothing in all the journey through the mountains which tends to excite more surprise than the situations in which these pursuits are sometimes conducted. Thus shepherds may be seen pasturing their flocks on steep unfenced slopes, below which there are abrupt precipices of three, four, and six hundred feet. The processes of agriculture, such as ploughing, &c., are executed in similar situations. In some places hay-ricks may be seen upon the steep sides of the mountains more than 1500 feet above the valley of the Terek, and where it would seem impossible that any human being could maintain a footing. A considerable part of the hay is brought down on the backs of asses; and from such places as are inaccessible even to those animals it is let down on a kind of sledge with ropes, as soon as the snows of winter begin to cover the mountains. The plough is drawn by four yoke of oxen, and is nearly twice the size of a common English plough, the fore part resting on two large wheels. To manage this unwieldy implement four persons are required: one holds the plough, two guide the oxen, and the fourth walks beside the ploughman to clear away the grass that may collect on the coulter. The following is the way in which they manage to plough the steep sides of the hills. The wheels of the plough are then of very different diameters,—perhaps that of the one is three feet, and of the other only ten inches; the axletree being of such extent as to allow the smaller wheel, in the upper part of the acclivity, to keep pace with the large one, which runs in the rut below. The pole is fixed not midway in the axle, but nearer to the large wheel than to the other. These contrivances, though rude and badly brought out, are in principle well calculated to answer the intended purpose.

Nevertheless, although the Ossetinians are considerably restrained by the presence of the Russian military stations among them, they are by no means the sort of people which such pacific employments would seem to denote. They are, in fact, a daring, intractable, and high-spirited race of men; and their true character seems to be strikingly illustrated by the fact, that no man among them ever appears without a loaded gun slung over his shoulder, or at least a dagger in his girdle, and generally both. Even the shepherds as they watch their flocks are thus armed; and so are the ploughmen, except the one who guides the plough, and even he has it so placed on the plough as to reach it with ease. The dagger is a curious weapon: it is broad near the handle, and tapers to the point, being altogether about eighteen inches

in length. In using this weapon the assailant stoops down and endeavours to thrust it into the abdomen of his opponent.

This warlike appearance is not assumed merely for ostentation, as among the Persians and Turks. It is in part a result of a principle which operates strongly among the Ossetinians and other mountaineers of the Caucasus, and which renders revenge not a passion, as it is generally seen among ourselves, but a deliberate and solemn duty, involving the consequence that every man goes armed, either to defend himself against the avenger who seeks his life, or to be ready to take any opportunity that offers against another whose life he seeks. Dr. Henderson mentions a striking instance of this in his 'Biblical Researches and Travels in Russia;' and although the statement refers to another tribe of the Caucasus (the Ingush), the quotation is perfectly applicable, the practice being precisely similar among the Ossetinians.

"The most trivial circumstance is often sufficient to produce quarrels, which seldom terminate without murder. Adhering tenaciously to the Oriental law of 'blood for blood,' they never rest satisfied without avenging the death of their relatives; and the principle is followed out in their generations till it effects the death of the murderer or one of his descendants, on whom he is supposed to have entailed his guilt. The missionaries were acquainted with a young man, of an amiable disposition, who was worn down almost to a skeleton by the constant dread in which he lived of having avenged upon him a murder committed by his father before he was born. He can reckon up more than 100 persons who consider themselves bound to take away his life whenever a favourable opportunity shall present itself. There is scarcely a house in which there is not one implicated in something of this nature."

Another cause for the belligerent appearance of the Ossetinians is that propensity to plunder which they share with the other tribes in these mountains. In their case, however, this propensity is considerably checked by the Russian military stations established in their territory, and by the manner in which merchants and travellers are conducted across the mountains. Nevertheless, they watch with vigilance for opportunities of surprising the unguarded or unwary, and in the robberies which they commit on such occasions murders are sometimes committed; but it is more usually their endeavour to carry off as prisoners persons whose appearance warrants the hope that a good ransom may be expected. Instances have occurred in which Russian officers of rank have been thus seized, and only liberated on the payment of the required ransom. The Ossetinians sometimes resort to such measures in retaliation for what they consider unjustifiable conduct of the Russian authorities towards them. They have retreats among the mountains so difficult of access, that such proceedings can only be effectively stopped by measures of extreme precaution. The boldness with which such aggressions are committed almost within sight of the military stations is amazing. The individuals of the party with which the writer crossed the mountains were on all occasions anxiously cautioned against venturing out of the view of the sentinels. On one occasion, in the deep and narrow pass of Dariel, the writer saw a soldier posted high up, on a projection of the perpendicular cliffs, and was informed that he was stationed there in consequence of a gentleman having been shot only a few days before near this spot, which was only a short distance above the military station of Lars.

BIRTH-PLACE OF SIR WALTER RALEIGH.



[Birth-Place of Sir Walter Raleigh.]

Hayes' Farm, in Devonshire, situated in the parish of East Budleigh, fourteen miles east of Exeter, and near the spot where the river Otter discharges itself into the British Channel, is celebrated as the birth-place of Sir Walter Raleigh. The interior of the dwelling, which now constitutes a comfortable farm-house, has been

much altered at various times. The exact room in which Sir Walter was born is not known; although one is shown as such by the present tenant.

This sequestered place is no longer interesting on any other account. The house, which is built like many old farm-houses in this part of England, in the form of the letter E, excepting the outer doors and the wooden frieze below the eaves of the roof, characteristic of the architecture of the sixteenth and seventeenth centuries, has few marks of antiquity about it; and the only article of ancient furniture which remains is a table with some rude carving on its sides and legs.

Walter Raleigh, Esq., the father of Sir Walter, had the remainder of an eighty-years' lease of Hayes' Farm, and resided there during his last marriage with Catherine, daughter of Sir Philip Champernoun of Modbury, by whom he had Sir Walter, who was born in 1552. The accounts given by Wood, Polwhele, Lysons, and other topographers, of this interesting place, are all meagre: some never visited the spot, and others appear to have examined it but slightly. They content themselves by mentioning the simple well-authenticated fact of its being the place of Raleigh's birth, and of the indelible attachment he retained for this humble residence of his youth in the midst of his prosperity. His letter to Mr. Duke, on the occasion of his offering to purchase Hayes, is too interesting to be omitted in this sketch:—

"Mr. Duke,—I wrote to Mr. Prideaux to move you for the purchase of Hayes, a farme sometime in my father's possession. I will most willingly give whatever in your conscience you deeme it worth: and if at any time you shall have occasion to use me, you shall find me a thankfull friend to you and yours. I am resolved, if I cannot entreat you, to build at Colleton, but for the natural disposition I have to that place, being borne in that house, I had rather seate myself there than any where els. I take my leave, readie to countervaile all your courtesies to the utter of my power.

"Court, y^e xxvi of July, 1584."

This letter, which did not obtain that result so anxiously desired by Sir Walter, was some time since to be seen at Otterton House, but probably is no longer in existence.

Hayes belongs at present to Lord Rolle, having been purchased by him with other estates of the Duke family.

In East Budleigh church, the oaken pew, still attached to Hayes' farm, is pointed out, which was occupied by the Raleigh family. The exterior of it is embellished by ancient carved work, among which are the arms of Wymond Raleigh, grandfather of Sir Walter, quartering those of Jane his wife, daughter of Sir Thomas Grenville, knt. On an adjoining pannel is the date "1534."

The parish register, which is still in a good state of preservation, commences only in 1555, three years after that of the birth of Sir Walter.

THE NORTH AMERICAN INDIANS.

[Concluded from No. 181.]

The policy which guided this country at one period, in our relations with the Indian tribes, was exclusively directed to the means of securing their alliance in the wars in which we were engaged with the French in Canada, about the middle of the last century, and during the contest of the Anglo-American colonies for their independence at a somewhat later period. Within the last few years a better spirit has been infused into our system, nobler objects have been kept in view, and some attention has been paid to the moral wants of the native population. Many curious particulars relating to our connexion with these tribes, are given in a Report presented to Parliament in the course of last Session.

Previous to the year 1816, not less than 150,000*l.* a year were paid as the price of the services rendered to this country by the Indians. A government department had been created, called the "Indian department," whose functions entirely consisted in maintaining the relations of Great Britain with the different tribes on an amicable footing. This was chiefly accomplished by annual presents to the chiefs and to all the members of a tribe, and was considered as a sort of retaining fee of the nature of half-pay. Annual payments were also made to those tribes whose lands had been ceded to the Crown.

In 1827, the Earl of Ripon (then Lord Goderich) took means for ascertaining the precise expense of the "Indian department." Great reductions have since been effected, and the value of presents does not now amount to 20,000*l.* a-year. The expenses of the department are also reduced to about 3,500*l.* It consists of one chief superintendent and one secretary; six superintendents and an assistant; eight interpreters, five missionaries, and one schoolmaster.

In 1830, among the Indians in the provinces of Upper and Lower Canada, presents were distributed to the following claimants, some of whom came 1600 miles to receive these pledges of our friendship. There were 84 chiefs and 94 warriors, who had been wounded in action; 184 wives or widows of chiefs or warriors; 321 chiefs; 4948 warriors; 5910 wives of warriors; 1400 boys, aged from one to four; 1101 from five to nine; 1226 from ten to fifteen; 1502 girls, from one to four years of age; 1011 from five to nine; 898 from ten to fourteen:—Total 18,709.

The distribution of articles of personal comfort and utility consisted of 20,000 blankets, 2625 yards of cloth, 22,986 yards of printed calico, 3064 yards of Irish linen, 21,435 yards of Scotch sheeting, 83,268 yards of gartering or binding. The blanket is an inestimable article to the Indian as a covering in severe weather both by night and day. Sometimes it is made up into a coat with a coloured edging. In articles of distinction and personal magnificence we find 30 pairs of silver gorgets, the rarest, and consequently highest, mark of honour which can be conferred on an Indian. Individuals of somewhat inferior pretensions receive silver arm-bands, of which 46 were distributed, or perhaps a silver medal, there being 42 in the list of presents. The females, we should suppose, are not less gratified with their presents than the other sex. Their influence is secured by 5398 pairs of silver "ear-bobs" and 7186 silver brooches. To complete their toilet there are 93 dozen looking-glasses, 9162 horn, ivory, and box-combs, 702 silk handkerchiefs, 5324 yards of ribbon, and 2387 ounces of vermilion. The gradual progress of the habits of civilized life is indicated by the following articles:—176 chiefs' laced hats and 172 plain hats, and 606 pairs of shoes. We are glad to perceive such as the following:—18,248 sewing-needles, 6021 ounces of sewing-thread, 808 pairs of scissors, and 124 dozen buttons; there are but 50 thimbles. Frying-pans have been discontinued, but there is a supply of 870 brass and 803 tin kettles. Of articles which are to be used either in the chase or in war, there are 12,978 butchers' knives, 16,743 lbs. of powder, 48,397 lbs. of shot, 22,598 flints, 5447 gun-worms, 607 chiefs' guns, 310 rifles, 679 common guns, 216 gun-locks, 450 tomahawks with pipe-handles, and flags. There is also a supply of fishing-hooks and lines, thread and rope for nets, beaver-traps, and 5449 fire-steels. Above 11,000 lbs. of tobacco are issued, but the supply of pipes has been discontinued, in consequence of the immense quantities which used to be broken in their conveyance to the different stations

The butcher's knife, a few pounds of powder and shot, and some gun-flints, with a good blanket, constitute the common present, but the chiefs and those who have been wounded are more highly rewarded.

It was proposed that money should be given in lieu of presents, but to use the strong expression of Lord Dalhousie, who was governor at the time when such a plan was contemplated, his Majesty's Government "would be loaded by the execrations of the country," if such a measure were adopted. The Indians would have soon felt its fatal effects in the increased intemperance which it would have induced, and they would have been flung back still farther from the state of civilization to which they have begun to perceive it was their interest to cling as a means of preserving their national existence. This view of the nature of their position could not fail to be forced on them. The advances of agriculture were gradually destroying the value of their hunting-grounds on the one hand, and on the other, if they should be driven for subsistence towards those of more westerly tribes, their intrusion would not only be regarded with jealousy, but would occasion bloodshed and murder. The British Government surely and humanely, therefore, does everything in its power to induce the Indians to settle and to pursue agricultural employments. In a conference which two deputies of the Iroquois nation had with Sir George Murray, at the period when he was Secretary for the Colonies in 1830, he pointed out to them how much it would be for the advantage of the Indian nations generally, that they should depart gradually from their old habits of life. In an official memorandum of this interview, Sir George is stated to have held the following language to the Iroquois:—"He represented to them that the white population, by the habits of cultivation, were spreading everywhere over the country like a flood of water; and unless the Indians would conform themselves to those habits of life, and would bring up their children to occupy farms, and cultivate the ground in the same manner with the white people, that they would be gradually swept away by this flood, and would be altogether lost; but by accepting grants of land, and cultivating farms, they would gradually increase their numbers and their wealth, and retain their situation in a country in which they were so well entitled to have a share, and in which he had a very sincere desire to see them prosperous and happy."

Considerable tracts of land have been allotted to Indians who are disposed to settle, but their previous habits are a strong obstacle to the application of regular industry; and their notions of hospitality, which compel them to share their all with any wandering Indians that join them, is a great discouragement to the increase of industrious and settled habits.

The preservation of wild animals, especially of the larger class, is incompatible with the due cultivation of the land. The situation of the Indians is therefore surrounded with difficulties, and would be desperate if no indications existed of their desire to overcome them. But we are glad to state that proofs abound both of their wish to settle themselves on the land and to receive instruction. A portion of the Mohawks who separated from their tribe many years ago, have become tolerable farmers, and some of them have assumed the dress of Europeans. The Chippewas, who amount to about 500 souls, have expressed a strong desire to be admitted to Christianity, and to adopt the habits of civilized life. The Mississquas, who were lately notorious for their drunkenness and disorderly habits, are now settled in a village consisting of twenty log-huts, eighteen feet by twenty-four, each having an upper story. The school is attended by thirty-one boys, who spell and read English fluently. They have two enclosures of about seven acres of wheat and a field on the banks of the river containing about thirty-five acres of Indian corn in a promising state of cultivation. A small plot is attached to each of their dwellings for potatoes and garden produce. The expense of erecting these log-houses was about 250*l*. They have since added some of their own construction similar to those first erected. About 2000 of the Mohawks and the Six Nations have retained 260,000 acres of good land in Upper Canada. Their knowledge of farming is stated to be exceedingly limited, being chiefly confined to the cultivation of Indian corn, beans, and potatoes; but some of them, of more industrious habits, raise most kinds of English grain. The following statement of their possessions has been compiled with care and attention:—dwelling-houses, 416; computed number of acres of land in cultivation, 6872; horses, 738; cows, 869; oxen, 613; sheep, 192; swine, 1630. In 1826 the government settled 200 Indians on Credit River, and built twenty huts for them. They have since built seven more for themselves. They have a meeting-house, which is also used as a school-house for the boys; there is another school-room for the girls, and a house for the resident missionary. They are generally anxious that their children should learn some trade, and particularly that a blacksmith should be settled among them who might instruct their children in his art, as they now incur a heavy expense by sending their farming implements to different forges. A change of a cheering nature has also taken place in their tastes. Those trinkets and gaudy-coloured clothes which they formerly admired so much are now held in light estimation; and they would prefer receiving twine, rope, and lead sufficient to make a couple of nets, which would supply them with fish. The women are in general industrious, and can earn a considerable sum by making baskets.

In consequence of these and other gratifying indications, it has been proposed to furnish them with agricultural implements in lieu of the ordinary presents. This would doubtless greatly contribute to the improvement of their condition, and enhance the value of civilization in their eyes; but the scale on which exertions of this nature should be carried on ought to be comprehensive, and have reference also to their moral advancement. They already thirst for instruction, and one of the Potagunnser Indians, being assembled with the whole of his tribe, expressed in the following terms their desire to receive the rudiments of knowledge. Addressing the chief member of the Indian department, he said:—"Father, we have observed with some degree of jealousy the establishment of a place at Michilimackinac, at which (missionary school) the children of our great father (Indians) are taught the means of living the same way the whites do, where they also learn to *mark their thoughts* on paper, and to think the *news from books* (to read and write) as you do; we have heard too, my father, something which gives us hopes that our great father will give us the means to live as the white people do.

"Father, our young men who carried your papers to York last winter, tell us, that our brethren about that place, who, like ourselves, were great drunkards and bad people, are now become sober and industrious. The Great Spirit favours them because they know how to ask his blessing. I am sure if our fathers at York and Quebec were acquainted with the misery and hardships we undergo, they would teach us how to be beloved of the Great Spirit (to become civilized), and we would be more happy.

"Father, our great father at York has given our brethren the means to cut up the ground (plough), and has taught them to cultivate the land. How they are favoured! We wish he would favour us in the same way.

"Father, we might send our children to Mackinac

to get sense (be instructed), but we are not big knives (Americans), therefore we wish you would deliver this our parole to our father at York with your own hands, and tell him our wants. You have been a long time with us, and know our misery. Tell him we want such a house and good people as they have at Michilimackinac to teach us to read and write and to work; we have arms as well as the whites, but we do not know how to use them. Our hearts are dark, we want them made white (become Christians). How we should laugh to see our daughters milking cows and making dresses for us, and to see the young men beating iron and making shoes for each other!

"Father, tell our father that we squeeze him hard by the hand and trust that he will assist us; tell him we want some hoes and spades to dig with; don't leave our father until you get him to say yes."

The Indians disposed to abandon their habits of savage life and to become settlers, should be located in villages at no great distance from other settlements, by whose example they might profit. In his first steps in civilization the Indian is like a child, and persons should be attached to their settlements capable of instructing them in the principles of agriculture, and they should not be permitted to dispose of the lands marked out for them. The probable expense of settling 700 families in seven settlements would be 22,784*l.* for five years. This would include seven school-houses (to serve also in the first instance as churches), at a cost of 100*l.* each; seven houses for schoolmasters, at 60*l.* each; and the salaries of seven schoolmasters at 46*l.* each per annum, for five successive years. It would also be desirable to maintain a few pairs of oxen in each settlement to lend to such Indians as may be disposed to use them in ploughing their land. In fine, in order to turn to the best account the disposition to settle which now very generally pervades the Indian tribes, Sir James Kempt, then holding an official situation in the Canadas, proposed that they should be apprized, through the medium of their grand councils, of the conditions on which they might obtain land; and that an intimation should be made to them that at the expiration of a certain period the encouragement offered to Indian settlers would be withdrawn. Sir James recommends that not less than 100 acres should be granted to each family, a proportion, considering the climate and other circumstances, which will not exceed the wants of the Indian settler; and that a final title should be conferred only on certain conditions having been fulfilled, viz.,—that two acres of land shall have been cultivated within the first year, three more within the second, and at the end of the third year that eight acres shall have been cleared and cultivated. The location of the Indians in country lots would be found much more advantageous in producing habits of temperance and industry than by assembling them in villages. The establishment of carpenters, blacksmiths, and other artisans in the Indian settlements should be encouraged by the government, in order that the latter might learn to repair their agricultural instruments and construct their own houses. Without the assistance of the government, indeed, it is impossible to produce any extensive or effective results on the Indian character and modes of life. Another powerful means of creating a change would be by educating a portion of Indian children with those of the white inhabitants at the common English schools of the country, who might afterwards act as schoolmasters. A few might be educated in a superior manner as missionaries. The religion of the Indians of Lower Canada is the Roman Catholic. In Upper Canada there are but few of this persuasion, and the missionaries are rapidly converting the heathen part of them to Christianity.

Although we cannot point out an Indian community in Canada exhibiting so many of the characteristics of civilization as the Cherokee nation, yet the remarkable desire which is experienced by many of the Canadian tribes to give up their wandering life is a symptom which, if turned to good account, is capable of producing equally happy results.

MINERAL KINGDOM.—Section XXXI.

Tin—(*continued*).

Separation of the metal from the ores.—The ores found in veins and that of the stream works are subjected to different processes of smelting, for they produce metal very different in point of purity. That obtained from *mine tin* is always of inferior quality, owing to the mixture of other metals, and which it is probable could not by any mode be got rid of; it is known in commerce by the name of common or *block* tin, and the quantity produced forms a large proportion of the whole that is brought to market. *Stream tin* produces a superior metal, known by the name of grain tin, which is principally used by the dyers, and for the finer purposes. The first operation after the mine tin is brought to the surface, is to break it into pieces the size of a man's fist, and to reject such portions as do not contain more ore than will repay the cost of *dressing*, the first great operation in the smelting process. As the ore is sometimes so scattered through the vein stone as to be scarcely perceptible to the eye, the workman from time to time reduces a small quantity to an impalpable powder; and, by repeatedly immersing it in water and shaking it on a shovel, the heavier metallic particles separate from the lighter impurities, and in that way the quality of the ore is ascertained. The ore, roughly broken, is taken to the stamping mill, which consists of several heavy upright wooden beams, shod with iron, and raised successively by wheels set in motion either by a steam-engine or water-wheel; and the ore passing beneath these beams in succession, as it becomes smaller and smaller, and through sieves of various bores under the surface of water, is at last brought to the state of coarse powder. This powder is now subjected to a great variety of washings and siftings, in all of which the purpose is to take advantage of the high specific gravity of the ore, and so to separate it mechanically from the lighter stony substances with which it is united in the vein. All these operations are conducted with more than ordinary care, for as the ore contains so large a proportion of valuable metal, it is important to guard against waste. But being sometimes mixed with other metallic ores which, from their specific gravity approaching so near that of the tin, cannot be removed by any process of washing, and these being for the most part decomposable by heat, the pounded ore is roasted in furnaces with a moderate and regular fire; after which it is again washed, and the tin ore, which is unalterable by that low heat, is obtained in a greater degree of purity. It is now in a state to yield from fifty to seventy-five per cent. of metal, and it is then sold to the smelter, who determines its value by assaying a sample carefully taken from the whole quantity. The smelting-furnaces hold from twelve to sixteen hundred-weight of ore, and this is mixed with certain proportions of coal and slaked lime. The ore is an oxide of tin: the carbon of the coal unites with the oxygen, and thus the metal is set free, the lime acting as a flux to assist the melting. The heat employed is a very strong one, and such as to bring the whole mass into fusion, and is continued for seven or eight hours. The liquid tin is run off into an iron kettle from a hole in the bottom of the furnace, leaving the slag or impurities behind. The tin is ladled into moulds, to form plates of a moderate size, to be refined by an after process.

The impurities still adhering are generally iron, copper, or arsenic, and these are separated by fresh meltings and exposure to heated air; and then the pure tin is cast into granite moulds capable of containing somewhat more than three cwt. each. These are called *blocks*, and are sent, according to the provisions of the stannary laws, to be stamped (or *coined*, as it is termed) by the Duchy officers, and it then comes to market under the name of *block tin*. The *stream tin ore*, after being dressed by poundings and washings, is carried to a blast furnace, where, being mixed with wood-charcoal, it is subjected to a very powerful heat urged by bellows moved by an engine. The melted tin is received in an iron kettle, under which there is a gentle fire, and it is kept in agitation by plunging pieces of charcoal—which have been soaked in water—into it, and which by means of an iron tool are kept at the bottom of the kettle: the water in the charcoal is rapidly converted into vapour, and so the agitation is kept up, and any impurities in the tin are thrown up to the surface and skimmed off; and then the metal, which is peculiarly brilliant in appearance, is removed by ladles into moulds to form blocks. This is *grain tin*.

The *Stannaries* (so called from *stannum*, Latin for tin) are courts in Devonshire and Cornwall for the administration of justice among the tinners. They are of very ancient date, and were instituted, according to Blackstone, "that the tinners might not be drawn from their business, which is highly profitable to the public, by attending their law-suits in other courts." The privileges of the tinners are confirmed by a charter of Edward I. There is a volume containing a collection of the "Laws of the Stannaries," which gives an account of "the Convocation or Parliament of Tinners," held by James Earl Waldegrave, Lord Warden of the Stannaries, by virtue of a commission from King George II., as Lord Duke of Cornwall, in the year 1752; and upon that occasion, it is said, there were present twenty-four "Stannators returned for the four stannaries." These laws enter into great detail, and regulate all the proceedings in the working of the mines, in the smelting-houses, and in the buying and selling of the metal.

The amount of tin coined in Cornwall and Devon in the year ending the 30th June last was 4180 tons, consisting of 23,586 blocks of common tin and 1490 blocks of grain tin. The average produce for the last six years has been about 4250 tons. The quantity of British tin exported generally exceeds 2200 tons, of which nearly one half goes to France alone, about a fourth to Italy and the Levant, about an eighth to Germany and Holland, the same amount to Russia and other parts of the Baltic, and about 120 tons to Spain and Portugal.

The only part of Europe besides Great Britain in which tin is now obtained in any quantity is Germany. There are mines in Bohemia, Saxony and Silesia, and the produce is sufficient to supply a large proportion of the demand for this metal in that part of Europe. There are some mines of high antiquity in Spain, in Gallicia, but we have no information respecting their present state. It was not known to exist in any part of France till the year 1809, when it was discovered not far from Limoges, in the department of Haute Vienne; and, in the year 1817, it was accidentally found in the south of Brittany, not far from the mouth of the river Loire. A marine officer, who had long been detained as a prisoner of war in England, and had been quartered in Cornwall in the neighbourhood of the tin-mines, returned to his native town of Piriac, a small sea-port of the department of the Lower Loire. Going out sea-fishing one day, and wanting some weights for his lines, he picked up a pebble on the shore, which appearing to him unusually heavy, he took it home to compare with a piece of Cornish stream tin which he had brought from the place of his captivity, and found it to be the same substance. He gave notice of his discovery in the proper quarter, and M. Dufrenoy, now a distinguished French geologist, then a young *aspirant* of the School of Mines, was sent with another to investigate the matter, and the report they made shows a remarkable uniformity of structure between that part of Brittany and the tin district of Cornwall on the opposite side of the Channel. The country between the mouth of the Loire and Piriac is composed of granite and slate, and it is at the junction of these rocks that the tin ore is chiefly found. They met with veins traversing the rocks, and a considerable quantity of stream tin both in the form of pebbles and of sand; and their impression was, that this stream tin was produced by the wearing of the rocks containing the veins by the action of the waves; the same action going on now, as in Cornwall in remote ages. The continued large importations of tin from England into France shows that this discovery has not as yet been attended with any great results.

By far the largest quantity of tin that has yet been found in any part of the world is, after Cornwall, in the Indian Archipelago. It has been met with as well on the continent as in the islands, from about 8° north to 5° south latitude, and from 98° to 107° of east longitude. It is found in Siam, and in numerous parts of the Malayan peninsula, and in the islets on its coast, and in the island of Borneo; but the richest mines are in the island of Banca, which lies off the south-eastern part of Sumatra. The discovery was accidental, in the year 1710, when some stream tin was smelted in a fire that had been made on the ground. The ore is wholly of this description, and occurs, as in Cornwall, in alluvial deposits; it is seldom followed below 30 or 40 feet deep, and the beds of ore frequently lie within three or four feet of the surface. The mines are exclusively worked by Chinese under the authority of the government, and they deliver the metal at a fixed rate. The smelting is conducted by a very simple and rude process, and yields from 50 to 70 per cent. of pure metal where it yields less than 30 per cent. it is not thought worth working. In thirty years after the discovery the mines yielded no less than 3870 tons, and in the most prosperous times they are said to have produced about 3500 tons annually, but latterly not more than half that quantity. The mines are in the northern and western parts of the island, but a large portion of it yet remains to be explored, and in the opinion of Sir Stamford Raffles, there seems no reason to apprehend any deficiency in the ore for centuries. Mr. Crawford thinks that the falling off is more to be ascribed to a want of skill in the art of mining than to any deficiency of the ore. The higher mountains of Banca are of granite, and the stream tin is found in gravel composed of granite and other primary rocks. Sir S. Raffles is of opinion that the tin ore found in the Malayan peninsula and islands, including that of Banca, has been originally washed down from the great central mountains of the continent which terminate the Eastern peninsula. The principal demand for Banca and Malay tin is in China, which is probably not less than 1000 tons in the year, and Bengal takes off about half that quantity, the remainder going to America and Europe. The Banca tin bears a higher price in China than the British, which is to be expected, for it is the purer, *grain tin*; and the British, which comes in competition with it, is probably the common block tin.

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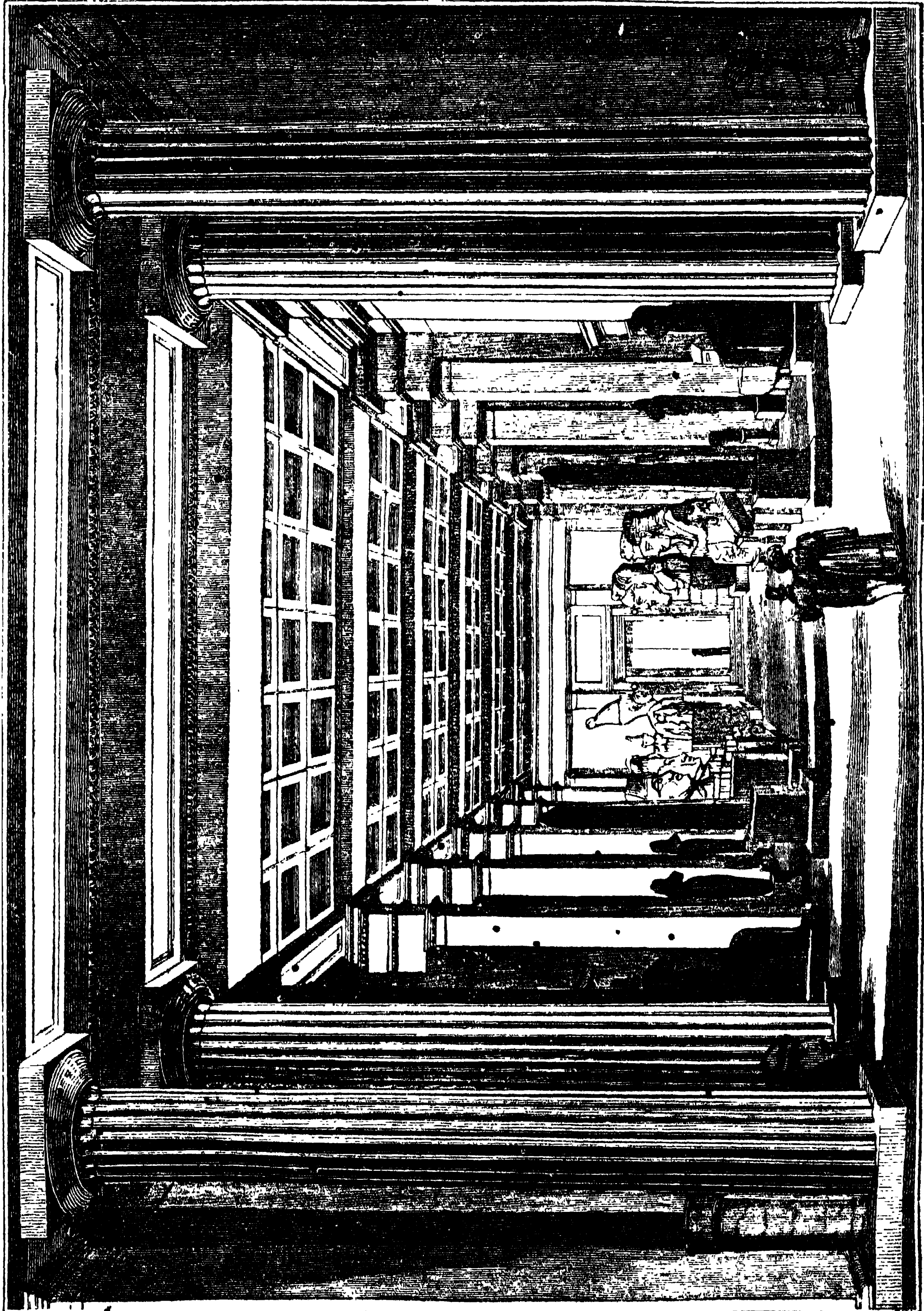
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EGYPTIAN ROOM, BRITISH MUSEUM.



[The Egyptian Room in the British Museum.]

This room, which is situated parallel to that which contains the Elgin marbles, and is about one-third of its size, has been lately erected, from the designs of Mr. Smirke, for the reception of the massive Egyptian antiquities which were formerly deposited in an unplastered barn-like apartment. In such erections, we always feel a desire that, so far as is compatible with their uses as show-rooms, care should be taken to give to the apartment a distinct architectural character, corresponding with that of the class of objects which it is destined to receive. So we would that the Egyptian Room should have a character distinctly Egyptian. We do not mean that its columns, walls, and ceiling should display ornaments such as occur in an Egyptian building,—for the imitation would have been misplaced and revolting in the midst of the true productions of Egyptian art;—but we mean that the apartment should have something of that heavy and massive character which distinguishes the architecture of ancient Egypt, and which so well agrees with the gigantic and passionless forms by which its sculpture is distinguished. The present room does not gratify this taste so much as we should have desired, although it is plain that, in the peculiar construction of the room, it has not been wholly kept out of view. The reader will receive a better notion of the room from the engraving than from any verbal description. The fluted columns at the entrance, and the pilasters which line the apartment, are in very good taste; and the latter, which are peculiar to this room, must have been designed with a distinct reference to Egyptian architecture, which required many pillars to support the roof. They form recesses, about three feet deep, in which the smaller antiquities are deposited, and where sculptured tablets and paintings are ranged on shelves against the wall. All the other apartments in which sculptured antiquities are deposited are lighted from the top, for the convenience of the artists who frequent them for the purposes of study; but in the present instance the architect has availed himself of the circumstance that the Egyptian antiquities are not in any way studied as models to throw the light through the side walls by common oblong windows, one of which is between every two pilasters. Merely in point of taste and effect, the light thus admitted is, however, too glaring and abundant. "A dim religious light" would be most suitable to the objects around But we must admit that, for the purposes of an exhibition-room, and for the use of the many who go to see minutely and fully, it is well as it is. We decidedly feel, however, that the room is much too small for what it already contains, without calculating on what may require admission to it hereafter. Those great masses of figured rock require a certain extent of clear space around them, without which they seem as crowded as the plaster figures on the head-board of an Italian vender: such space they cannot obtain in this room; and we perceive, indeed, that some Egyptian figures which ought to have been there have not been able on any terms to obtain admission. Nevertheless, so far as the limited extent allowed, the antiquities appear to have been arranged with considerable taste, and are displayed to the best advantage. The larger sculptures have been mounted on pedestals corresponding to their proportions.

It is evident that the removal of immense blocks of stone, such as some of these sculptures are, and the placing them upon pedestals, must have been a work of great labour and some peril. This was performed by artillerymen from Woolwich, under the direction of officers of engineers; and, upon the whole, was accomplished without any very serious accident to those engaged in it, and without damage to the figures.

MINERAL KINGDOM.—Section XXXII.

Tin—(continued).

Uses of Tin.—The principal consumption of this metal is in the preparation of tin-plate, which is not solid tin, but iron coated with tin. This is a very important branch of manufacture, both for home consumption and for export. Although tin has been so long a staple article of England, this manufacture was unknown here until about the year 1665, when it was brought into this country from the tin-works in the Erzgebirge, a range of metalliferous mountains which separate Saxony from Bohemia, by an enterprising Englishman of the name of Yarranton, who went to Germany on purpose. He met with considerable obstacles in introducing it, and it was not carried on to any extent for nearly half a century afterwards. The manufacture was first established on a large scale at Pont-y-Pool, in Monmouthshire, probably on account of the vicinity of the iron-works in the Forest of Dean, the iron there being, from its purity, particularly adapted for tin-plate. This stealing of the process from the Germans was, however, only a return for a benefit of a similar nature they had received from England, for it was a Cornish miner who first discovered the tin-ore of the Erzgebirge; and in gratitude, a monument was erected to his memory on the spot. The process of making tin-plate may be thus briefly described. English bar-iron of the finest quality is used; it is rolled into plates of different degrees of thickness, and cut into plates of various dimensions for the different kinds of tin-plate commonly used. The iron-plates are first *cleansed* by immersion in diluted muriatic acid;—then *scaled* by exposure to a strong heat, when scales of oxide of iron fall off;—rolled a second time, immersed in diluted sulphuric acid, and then well rubbed with hemp and sand. The object of these processes is to obtain a smooth, uniform, and purely *metallic* surface,—that is, without any oxide adhering to it, by which the particles of iron and tin may be brought into more direct contact, and so adhere more strongly. An iron-pot is nearly filled with equal parts of block and grain tin, and when this is melted, a quantity of tallow is added, sufficient to cover the fluid metal to the depth of four inches. This is done to prevent the oxidation of the tin. The prepared iron-plates are dipped into the melted tin, and a coating of it firmly adheres to the iron; and after some farther manipulations, to render the tinned surface as entire and uniform as possible, the process is completed.

Vessels for cooking and other purposes, which are made of iron or copper, being liable to be acted upon by the air, water, acids, fat, and other substances, must be tinned; and this is done by first rubbing the clean surfaces of the vessel with sal-ammoniac, heating them, pouring in melted tin, and revolving them, so that the tin may come in contact with every part of the iron or copper. Pins, which are made of brass wire, are whitened by being boiled in a solution in which tin is dissolved by the acid of cream of tartar. Pewter, when of the best quality, is composed of 100 parts of tin, 8 of antimony, 4 of copper, and 1 of bismuth; but the common sorts contain a large proportion of lead. Bell metal is a compound of copper and tin; and the solder used by plumbers and glaziers is composed of three parts of lead and one of tin. The silvering of looking-glasses is a mixture of tin and mercury. When beaten into thin leaves it is called tin-foil,—a substance extensively used in the arts. These are the principal purposes for which metallic tin is employed. Combined with oxygen it forms a white powder called *putty*, which is used for polishing metals and glass, and is the basis of the finest white enamel. This must not be confounded with glaziers' putty, which is a mixture

of chalk and linseed oil. A solution of tin in nitro-muriatic acid is extensively used in dyeing as a mordant, being one of those substances which, having an affinity both for the cloth and for the dye, fixes the colour: it is an essential ingredient in producing the finest scarlet and crimson in woollen cloths. A compound of sulphur and tin yields beautiful golden-coloured scales, very soft and glossy to the touch, readily rubbed between the fingers, and when the colour is brought out by a little friction, having a fine golden metallic lustre: this is what is called *Mosaic gold*, and it is extensively used for bronzing, and by japanners for *gilding* ornaments on tea-trays and other wares;—so that here, as in other things, " it is not all gold that glitters."

GOLD FISH (Cyprinus Auratus).

[From a Correspondent.]

These beautiful fish are of the carp *genus*, and are natives of China. The rivers of that country, according to Du Halde, abound with them, and when preserved in vases they form a considerable amusement to the Chinese ladies. These fish, though naturally very tender, have long been naturalized in Britain, where they also breed freely. They were first introduced into this country about the year 1691, but were not generally known till 1728, when a great number were presented to Sir Matthew Dekker, and have gradually been distributed to most parts of the country. They breed in ponds and small portions of water, but are not to be found in any of our rivers. A flow of water, even through a pond, is almost sure of destroying them, the water, by such a change, proving too cold for them: but in stagnant water, and even in fetid ditches, they appear to do well. Their spawning time in England varies according to the season, being seldom earlier than May, or later than July, and, under very favourable circumstances, they will spawn even more than once in the year. The approach of this season is known, as with other fish, by their following each other with very quickened motion, so much so, that they will sometimes jump out of the water, or thrust themselves into weeds so near the bank as to allow themselves to be taken by the hand. The milters, or male fish, are not distinguishable from the spawners, or females, by any difference of colour, as many have supposed, but are known by the dorsal fin, which in the male fish is short, and ends abruptly; but in the female it is long, extending almost to the tail, and is of a fan-like shape. The actual time of spawning may be perceived by an unusual stillness in the fish, and by their keeping in deep water, even in the hottest weather, contrary to their usual practice, which is, to remain basking in the sun at the very surface, and with their backs frequently out of the water. The increase of these fish, when first put into a pond, will be very considerable, but after a time, unless the young fry are removed, there is little or no increase; this arises, no doubt, from their eating the spawn before it has life. In the Chinese rivers the spawn is carefully collected, and exposed for sale, and a great number of barks may be seen on the great river Yangtse-kiang, which go thither to purchase it. When the spawn becomes alive, the fish are of a very dark colour, many of them nearly black, and others of a dark slate colour. The former of these produce the red or gold fish, and the latter the white or silver fish. The time at which this change takes place is very various. In some it happens at the end of the first year, but in others not till the second or third year, or even perhaps later. Our observations do not enable us to give any general rule on this subject. Although these fish are extremely tender, yet they are seldom affected by our coldest winters, and seem in the spring to have been not at all altered by the winter months. The heat, however, of the hand, is sufficient to deprive them of life, and is probably one reason why they seldom live long when confined in glasses. Persons who are desirous of keeping them should change the water very frequently, and remove the fish by a small landing-net. It is also of advantage to keep them during the night in a pail or tub of water, and remove them into the more confined place in the morning. The best time of the year to take them from the pond is during the month of April, or before they become heavy with spawn; for in a state of confinement they seldom or never survive the spawning season. They never spawn in a transparent vessel. The colours also of these elegant and beautiful fish vary considerably at different seasons; but we have always noticed that the colours are the most brilliant about the time they spawn. When kept in ponds they may be made very familiar. By occasionally feeding them with bread they become tame, and will generally begin to congregate on hearing the sound of the human voice. It is not at all unusual for them to be brought together at the sound of a whistle, or other shrill noise. But if any attempt is made to catch them, either by hook or net, they become extremely shy, and it is not until after a considerable time that they again become familiar.

Pride of a Cow.—A correspondent informs us that, while on a visit at the country-house of a lady, it one day happened that they were passing the cow-house just at the time when the dairy-maid was driving home the cows to be milked. They all passed in quietly enough, with the exception of one, which stood lowing at the door, and resisted every effort of the dairy-maid to induce her to enter. When the maid was interrogated as to the cause of this obstinacy, she attributed it to pride; and, when surprise was expressed at this, she explained that, whenever any other of the cows happened to get in before her, this particular cow would seem quite affronted, and would not enter at all unless the others were turned out again, and she had an opportunity of walking in before them. This statement having excited curiosity, and a wish to ascertain its accuracy, the maid was desired to redouble her exertions to induce the cow to enter: on which she chased the animal through every corner of the yard, but without success, until she at last desisted from want of breath, declaring that there was no other remedy than to turn out the other cows. She was then permitted to make the experiment; and no sooner were the others driven out than in walked the gratified cow, with a stately air, her more humble-minded companions following meekly in her train

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Fluid Ink.—All ink may be rendered fluid by putting into the inkstand a small quantity—that is, a piece not bigger than a pin's head—of *prepared Ox-galls*, which may be purchased at any artist's colour-shop.

General Jackson's Snuff-box.—We have been furnished with an extract of a letter from Washington, the writer of which, in describing an interview with the President of the United States, relates that the latter showed him a porcelain snuff-box, which he had just then received as a present from England. It contained a paper, stating that it was offered as a grateful memorial from a British soldier of the kind treatment he had received while a prisoner of General Jackson. The old soldier stated that he was now employed in a manufactory of porcelain in Staffordshire, and begged that the General would receive the box as a humble tribute of his gratitude.

Minstrelsy in the Sandwich Islands.—In one of our country excursions we were entertained with a specimen of the minstrelsy of the islanders, which might have suggested ideas of the ancient bards in our own islands, though in point of simplicity the instrument far surpassed that of our ancestors. It was formed of two gourds, one considerably larger than the other, into the neck of which that of the smaller one was tightly driven. Doubling his legs under him, the minstrel seated himself on a mat before us, and, taking the instrument in his left hand, secured it to his wrist by a strong string purposely attached: he began, in recitative, to sing the exploits of the celebrated Tamaahmah during his many wars. There was but little display either of vocal or instrumental music, but his gesticulations were admirably suited to the scenes he wished to depict,—the rage of battle,—the meeting of friends,—the endearments of affection,—and, even the sea sickness experienced in his passage from one island to another. The gourd was violently or gently beaten as became the moment, and in wielding it the minstrel exhibited some grace and great muscular action. The narrative lasted about half an hour, after which the bard was duly honoured with an ample " largess " from the officers, much to his satisfaction.—*MS. Journal of a Voyage round the World.*

WILD DUCKS.—No. II.



[Method of Capturing Wild Ducks in the Fens of Lincolnshire.]

In an account of the various methods employed in capturing wild ducks, we must not overlook the system of "hut-shooting" pursued in France, which is described by Colonel Hawker, from whose book* the following account of it is derived, as the only method "by which a very bad shot with a very bad gun may kill ducks while as warm and dry as if by his fire-side."

There are few places where a lover of comfort can shoot more at his ease than at the lakes of Peronne in Picardy. The water, being part of the Somme, is not quite stagnant, and is, in every part, about four or five feet deep, surrounded and intersected by numerous islands and walls of rushes. The waters are here rented by different "huttiers" (hut-shooters), who get their livelihood principally by supplying the markets of Paris and other towns with wild-fowl, which they shoot, instead of taking them with decoys, as in this country. Though the French in some places are very expert at catching birds,—particularly on that vast tract of sand between Crotoi and St. Valery, where the whole mouth of the Somme may be seen spread with nets and surrounded by lines of horse-hair (nooses),—yet shooting from the hut is the favourite and most general method of capturing wild-fowl in France. The common way of making a hut is, to cut down a large square in the reeds, about eight feet by four; and after a foundation of wood, stone, or brick has been laid, six piles are driven in on each side, on which are placed hoops precisely like those of a tilted waggon. The sides are then built up with turf or whatever else is most convenient, and the roof is thatched over. In front there must be three or four port-holes to fire through, and, at the back, a small door at which the fowler enters. This hut being built amidst high reeds, and afterwards strewed over with them, is completely undistinguishable, although as commodious inside as a large covered waggon. Hither the "huttier" of Peronne repairs regularly every night,—wet or dry,—and takes a great-coat (if he has one), with a piece of brown bread and a sour apple for his supper. In front of his hut are fastened, to piles at each end, three separate ropes about twenty yards long. On the centre rope he ties four drakes, and four ducks to the one on each flank, making in all twelve decoy birds. The birds thus separated will, in general, be calling to each other, and, if so, a wild one will seldom pass without coming down to them. As the decoy birds are (to use a military term) dressed in line, whatever bird the fowler sees out of the ranks he knows must be a wild one: and as the lake in moderate weather is like a mirror, the night is seldom so dark but that he can see to shoot at the very short distance which his miserable gun and powder will allow. The *huttiers* never permit shooting from a boat, or at birds on the wing, through the fear of disturbing the pond. One of the principal of them informed Colonel Hawker that his plan was to take his night's rest, and leave the birds till a little before daylight, when they would be all doubled together, and when a shot would do much less mischief to the decoy than if fired before the birds had fed and slept.

But all the methods we have described, which more or less involve much watching and fatigue, are vastly inferior to the decoys used in England, particularly in the fens of Lincolnshire,—a circumstantial account of which is given by Bewick, and illustrated by our woodcuts.

In the lakes to which the wild ducks resort, their most favourite haunts are observed. Then, in the most

* Instructions to young Sportsmen in all that relates to Guns and Shooting. Fifth Edition, 1826.

sequestered part of this haunt, a ditch is cut, which is about four yards across at the entrance, and decreases gradually in width from the entrance to the farther end, which is not more than two feet wide. The ditch is of a circular form, but does not bend much for the first ten yards. The banks of the lake on each side of this ditch (or "pipe," as it is called) are kept clear from reeds, coarse herbage, &c., in order that the fowl may get on them to sit and dress themselves. Along the ditch poles are driven into the ground, close to its edge, on each side, and the tops are bent over across the ditch and tied together. These poles, thus bent, form at the entrance of the ditch or pipe an arch, the top of which is ten feet distant from the surface of the water. This arch is made to decrease in height as the pipe decreases in width, so that the remote end is not more than eighteen inches in height. The poles are placed about six feet from each other, and connected by poles laid lengthwise across the arch and tied together. Over the whole is thrown a net, which is made fast to a reed-fence at the entrance and nine or ten yards up the ditch, and afterwards strongly pegged to the ground. At the end of the pipe farthest from the entrance is fixed a "tunnel-net," as it is called, about four yards in length, of a round form, and kept open by a number of hoops, about eighteen inches in diameter, placed at a small distance from each other to keep it distended. Supposing the circular bend of the pipe to be to the right when one stands with his back to the lake, then on the left-hand side a number of reed-fences are constructed, called "shootings," for the purpose of screening the "decoy-man" from observation, and in such a manner that the fowl in the decoy may not be alarmed while he is driving those that are in the pipe. These shootings, which are ten in number, are about four yards in length, and about six feet high. From the end of the last shooting a person cannot see the lake, owing to the bend of the pipes, and there is then no further occasion for shelter. Were it not for these shootings, the fowl that remain about the mouth of the pipe would be alarmed if the person driving the fowl already under the net should be exposed, and would become so shy as entirely to forsake the place. The first thing the decoy-man does when he approaches the pipe is to take a piece of lighted turf, or peat, and hold it near his mouth, to prevent the birds from smelling him. He is attended by a dog, trained for the purpose of rendering him assistance. He walks very silently about half-way up the shootings, where a small piece of wood is thrust through the reed-fence, which makes an aperture just large enough to enable him to see if any fowl are in; if not, he walks forward to see if any are about the entrance of the pipe. If there are, he stops and makes a motion to his dog, and gives him a piece of cheese, or something else, to eat; and, having received this, the animal goes directly to a hole through the reed-fence, and the birds immediately fly off the bank into the water. The dog returns along the bank between the reed-fences, and comes out to his master at another hole. The man then gives him something to reward and encourage him, and the animal repeats his round until the birds are attracted by his motions, and follow him into the mouth of the pipe. This operation is called "working" them. The man now retreats farther back, working the dog at different holes until the ducks are sufficiently under the net. He then commands his dog to lie down behind the fence, and going himself forward to the end of the pipe next the lake, he takes off his hat and gives it a wave between the shooting. All the birds that are under the net can then see him; but none that are in the lake can. The former fly forward, and the man then runs to the next shooting and waves his hat, and so on, driving them along until they come to the tunnel-net, into which they creep. When they are all in, the man gives the net a twist, so as to prevent them from getting back. He then takes the net off from the end of the pipe, and taking out, one by one, the ducks that are in it, dislocates their necks. This is the scene represented in the cut at the head of this article, in the preceding page. The net is afterwards hung on again for the repetition of the process; and in this manner five or six dozen have sometimes been taken at one drift. When the wind blows directly in or out of the pipes the fowl seldom work well, especially when it blows into the pipe. The reason of this is, that the ducks always prefer swimming against the wind, otherwise the wind blowing from behind catches and ruffles their feathers. If many pipes are made in the same lake, they are so constructed as to suit different winds, and are worked accordingly. The better to entice the fowl into the pipe, hemp-seed is occasionally strewn on the water. The season allowed by Act of Parliament for taking ducks in this way is from the latter end of October until February.

Willughby states that formerly before the young ducks took flight, or while the old ones were in moult and unable to fly, they were driven by men in boats furnished with long poles, with which they splashed the water, between long nets stretched vertically across the pools in the shape of two sides of a triangle, into lesser nets placed at the point, and in this way he says that 4000 were taken at one drive in Deeping Fen; and Latham has recorded an instance in which 2616 were taken in two days near Spalding, in Lincolnshire; but these practices being considered injurious, were prohibited by statute in the reign of George II.

Tame ducks are also used for the purpose of leading the way into the pipe. Hence the term "decoy-ducks." These birds are fed on the pond, and made quite tame, and come to the keeper's whistle, to eat the hemp-seed which he strews on the pond. They generally lead the way into the pipe when whistled to. As they are used to the sight of the keeper, they do not rush forward with the wild ones into the net, but return back again safe into the pond; or if any of them should be driven forward, they are easily, by their colour, distinguished from the wild ones.

Although our account more particularly relates to the bird in its wild state, it will not be improper to mention that the rearing of ducks is made an object of great importance in China. The greater part of them are hatched by artificial warmth; the eggs being laid in boxes of sand, are placed on a brick hearth, to which a proper degree of heat is given during the time required for hatching. The ducklings are fed with craw-fish and crabs, boiled and cut small, and afterwards mixed with boiled rice; and in about a fortnight they are able to shift for themselves. The Chinese then provide them with an old step-mother, who leads them where they are to find provender, being first put on board a "sampane" or boat, which is destined for their habitation, and from which the whole flock, often 300 or 400 in number, go out to feed, and return at command. This method is used nine months out of the twelve, for in the colder months it does not succeed; and is so far from a novelty that it may be seen everywhere, more especially about the time of cutting the rice, when the masters of the duck-boats row up and down the rivers, according to the opportunity of procuring food, which during that season is found in plenty, at the ebb of the tide, on the rice plantations, which are overflowed at high water. It is curious to see how the ducks obey their master; for some thousands belonging to different boats will feed at large on the same spot, and on a signal given, follow the leader to their respective boats, without a stranger being found among them.

OLD TRAVELLERS.—BUSBEQUIUS.—No. VI.

Having obtained a six-months' truce, and taken his leave of the great Solyman, our traveller left Amasia, of which important city he says:—"It is in a manner the chief city of Cappadocia, where the Turkish governor of that province usually has his residence. * * Strabo, the Greek geographer, writes that he was born here. It lies on the side of two opposite hills, the river Iris, dividing the city in the midst, running between them, so that from each part you may look down upon the river as from the seats or stairs of an amphitheatre; and one side of it is conspicuous and open to the view of the other. It is so compassed with hills that there is but one way to it, either for coach or waggon." [Fifteen centuries before Busbequius's visit, Strabo wrote a description of Amasia, or Amaseia, his native place, which is still preserved to us.] Our traveller continues,—

"Upon a high hill that hangs over and commands Amasia, there is a strong castle wherein the Turks have a continued garrison. * * * In this hill there are some ancient monuments which, perhaps, were the sepulchres of the ancient Cappadocian kings." Strabo mentions the tombs of the kings within the fortifications or walls; and Busbequius's "strong castle," which since his time has become a ruin, was probably the fortress alluded to by the ancient geographer, as situated on a lofty rock that was precipitous all round.

"As for the houses and streets of Amasia, there is little or no beauty in them. Their houses are built of loam, as they are in Spain, level at top without any ascending roof, and what covering they have is also of loam or clay. The Turks have some old piece of a pillar, cylinder, or roller, which they roll up and down to stop any chink or crevice made either by rain or wind. The inhabitants, in former times, used to lie down to sleep in the open air on the house-tops. As for rains, they are not great nor frequent in these parts; but if at any time a shower falls, the loamy droppings from the eaves do wofully dirty the clothes of those that pass under them. I saw here a certain young noble person, living not far from me, at his dinner after the old Roman fashion, lying on a bed."

It was in the month of June when Busbequius began his homeward journey, and the heat was so excessive that he was soon thrown into a fever. In spite of his illness, however, he contrived to travel much quicker than he had done in going to Amasia; and he arrived at Constantinople on the 24th of June. He says, very good-humouredly, "You must needs think that I had a troublesome journey of it, having such a companion with me as a quotidian ague all the way, so that when I came thither I was almost nothing but skin and bone; yet, lean as I was, when I came to rest, and, by the advice of Quackelben my physician, using warm baths, I quickly recovered. *One thing I particularly remarked in the method of my cure, that, when I came out of the warm-bath, he would sprinkle me over with cold water, which, though it were troublesome and unpleasant to me at the moment, yet I found that it did me much good.*"

We beg attention to the words marked in Italics, as we have, more than once, seen the same mode of treatment successful in cases of malaria fever—about the worst kind of fever and ague. Sulphate of quinine is a surer remedy, and a medicine that no traveller ought to be without. In the same disorder, which is generated by the miasmata from stagnant water, and the decomposition of vegetable matter, we have seen the Greeks of Asia Minor employ, *with success*, pills made of the spider's web, rolled up. The distinguished author of Anastasius, when in that country, not satisfied with the web, occasionally swallowed the spider itself. It is well for travellers and sailors to know these things, as they are but too liable to be attacked by these fevers in places where there are no physicians, or medical advice, or medicines of any kind at hand.

In modern times we have been accustomed to hear talk of no other kind of slavery than that of the poor negroes, and have lost sight of the days when Europeans and Christians were dragged by thousands to the slave-markets of Constantinople, and sold like beasts. Let us listen to our old traveller.

"I stayed about fourteen days at Constantinople to refresh myself, and then I entered on my journey back again to Vienna: but I was entertained with an inauspicious omen,—even a very sad spectacle; for, just as I was gone out of the gates of Constantinople I met whole waggon-loads of boys and girls, which were brought out of Hungary to be sold at Constantinople, no merchandise being more frequent among the Turks than this. For, as when we leave Antwerp we meet with all kinds of goods and merchantable commodities importing into the town, so here, every now and then, there passed by us abundance of poor miserable Christian slaves, which were going to be sold in the markets to a perpetual bondage. There was no distinction of age; old and young were driven in herds, or troops, or else were tied in a long chain, as we are wont to tail horses when we carry them to fairs. When I beheld this woful sight, I could not forbear weeping and bemoaning the unhappy state of poor Christendom."

On the second day of his journey, Busbequius perceived that a person in his retinue was lying sick in a sort of coach, with one of his legs bare and in pain. Approaching nearer, he saw to his horror a plague-ulcer upon that leg.

"We were sore troubled," he says, "at this sight, as fearing that infectious disease would surely spread further; but the poor man lived till we came to Adrianople, and there departed this life. Upon his death another mischief did succeed: as soon as the breath was out of his body, the Hungarians with me ran in greedily to the prey,—one caught up his stockings, another his doublet, a third his shirt, a fourth his other linen; thus casting themselves, and us too, into a great deal of danger. Nor was there any way in the world to hinder them. It is true my physician, like an honest man, ran in amongst them, and entreated them, for God's sake, to throw away the things, because they would infect us all; but they were deaf to his advice."

The very day after they had left Adrianople the four Hungarians were, or fancied they were, attacked by the plague, complaining to the doctor of a pain in their heads, with a sad dejection of their spirits, and a listlessness both of body and mind. The doctor said they were well served, but prescribed for them. As, however, they all four recovered after taking a dose composed of the decoction of a plant which smelt like garlic, and which Busbequius calls *scordium*, "mixed up with some Lemnian earth and diascordium," we may reasonably suppose that they had not caught the fatal infection at all.

Travelling on, in all the heat of the dog-days, through Servia and the country of the Rascians, which were "almost parched and withered with drought," he at last re-entered the fertile territories of Hungary, where, notwithstanding the heat, "the grass was so tall, that a coach that went before could hardly be seen by another that came after; which is a great argument of the goodness of the soil." At the town of Essek, which was almost inclosed by muddy marshes, he was again attacked by his fever and ague. Ill as he was, he, however, crossed the river Drave, and went on to another Hungarian town called Lasque, "where," he says, "being wearied with the heat of my journey and my ague, I laid me down to rest." * * "And here," he continues, "the chiefest of the place came to bid me welcome, and presented me with large Hungarian

melons, pears, and plums of several sorts, besides choice wine, and other provisions, all of them very good; the noted country of Campania in Italy hardly producing better."

After resting a day or two he travelled on to Mohatz, noted for a great victory obtained there by the Turks over Lewis, King of Hungary, not long before. Our traveller adds, "Not far from that town I saw a river whose waters were deep, and its banks very steep: here that unhappy prince leaped in with his horse, and was drowned, being for his fall as much to be lamented, as condemned for his imprudence in venturing, with a small and newly-raised army of his countrymen, to cope with the more numerous, *veteran*, and *well-disciplined forces* of Sultan Solyman."

From Mohatz Busbequius travelled on by Tulna to Felduar, after which he re-crossed the Danube, and arrived at Buda on the 4th of August, having lost many of his horses by the way, "that were choked with eating new barley and drinking over-cold water." He had, besides, a very narrow escape from the Heyduks or robbers that then infested all Hungary.

It pleased the obstinate and arrogant Pasha of Buda to make the ambassador wait three days before he would grant him an audience, and when he admitted him he showered down reproaches on him and on the Christians, and made use of some threatening expressions of revenge.

"It may be," says Busbequius, "he thought that the sight of his host of Janizaries and troops he had gathered round me, would terrify me; but he was mistaken. I answered him roundly, that the Hungarians might rather find fault with the Turks. * * * And so, after a warm altercation, I was dismissed, being in very bad plight, for my ague-fit was strong upon me all that day."

The day after this uncourteous audience he continued his journey with an escort of Turkish cavalry. At a certain stage of this day's march, he sent two Turkish soldiers a-head to prepare the ferry-boats that were to carry him and his retinue across the Danube again. The adventure that follows is best told in the author's own words:—

"When these two Turks were gone an hour's march before us, they espied four horsemen standing under a tree, a little from the highway side. They judged them by their dresses to be Turks, and therefore turned aside to accost them; and as they drew near they asked them, 'What news?' The strangers answered them not a word, but made at them with their drawn swords, and one of them gave one of the Turks such a blow athwart the face, that he made the greater part of his nose to hang down over his chin, and then catching at the Turk's good steed, which he held by the bridle, he left his own sorry beast, and mounting the Turk's horse, set spurs and away. The two Turks came presently back to us, especially he with the maimed face, and with a woful lamentation bid us prepare for battle, for we were waylaid. I, to encourage my men, leaped immediately on horseback; but we came too late, when the scuffle was over; for they had more mind to preserve the prey they had got, than to fight; and thereupon fled speedily to Javarin, an Hungarian garrison of the Christians to which they did belong: the Turks indeed, showed them to us as they were scouring over the neighbouring hills that led to Javarin."

After this adventure he reached the town of Gran without any accident. The next day, when the Turkish escort was to leave him, he being now on Christian ground, the fellow who had been wounded presented himself "with his nose sewed together, through which he made a lamentable moan," and begged Busbequius would have pity on his condition. The ambassador said he would give him two ducats, which were enough for his cure. The Turk would have had more, but his superior officer told him two ducats were quite enough for a slit nose, and that his misfortune was not to be charged upon the ambassador.

"Being thus dismissed," continues Busbequius, "I came the same day to Commora, where I expected my ague-fit; but when the usual period of it drew near, I found it had left me—as if a fever got in Turkey durst not accompany me in the Christian territories. Whereupon I gave God thanks, who had freed me of my ague, and had also brought me safe to the end of my long and dangerous journeys."

He was, however, so much reduced, and looked so ill, that when he arrived at Vienna, two days after, the people about the court thought the Turks must have given him a poisonous dose, and his friend the Archduke Ferdinand did not know him again. It appears that he was kindly received by the Emperor, and that his travels, which were considered extraordinary at that time, made a great noise in the society of the Austrian capital. He says, with sufficient self-complacence,—

"There are many persons here who refused to accompany me to Constantinople, either through fear or I know not what other motive, who wish they had given any money to go along with me, now that they see me returned in safety. But what saith he in Plautus? *If you will eat the kernel, you must take the pains to crack the nut.* He is wrong who hopes to reap part of the fruit without taking part of the pains."

Busbequius had scarcely recovered from the fatigues of his first embassy to Turkey, when he was appointed to a second; the Emperor Ferdinand, who was anxious to conclude a permanent peace with Sultan Solyman, not being able to find any other well-qualified person that would undertake the journey, and face the proud fierce sovereign of the Turks.

This time also he set out in the depth of winter;—and this winter (of the year 1556) was a very cold, rainy, and tempestuous one. He travelled by the route he had already performed to Constantinople, where he found the great Solyman, and so little encouragement to press the negotiation with which he was charged by the Emperor, that the Turkish pashas told him if he did so, two of his companions would most assuredly be cast into a dungeon in the Seven Towers, and he himself, after having his nose and ears cut off, would be sent back to his master. Our old traveller, however, was not a man to be bullied or frightened from his duty:—he remained steadily at his post; he persevered; he most thoroughly learned the character and conduct of the oddly-constituted Turkish cabinet; and, after residing for nearly seven years at Constantinople, succeeded in obtaining a very advantageous treaty of peace. During all this time, the labours of his difficult mission, and the minute attention he paid to the politics of the East, did not wholly absorb him. He was too good an economist of his time, and too fond of letters, arts, and natural history, not to find moments and hours for their cultivation. He got together and wrote down much curious information about both the public and domestic history of the great Solyman:—he collected ancient inscriptions and coins;—he sought out and purchased ancient Greek manuscripts; and he paid great attention to rare plants, and the nature of animals, such as camels, camelopards, hyænas, jackals, lynxes, and others that were then but little known in western Europe. He took with him to Constantinople, and maintained at his own charge, a painter, who made drawings of such objects as could not be preserved or transported. He penetrated with a sagacious and sure eye into the real condition of the Ottoman empire, and showed the true means by which the Christian powers might attack it, or, at least, defend themselves with success. He was not only a man of exalted tastes and

intellect, but of a most generous mind. Besides other liberal acts, while at Constantinople, he relieved at his own expense and credit a number of Spanish prisoners that had been taken by the Turks in a naval engagement.

When he returned with honour from his second embassy he was inclined to retire to a private and literary life; but his character, talents, and manners had attracted the attention of princes, and he was drawn more than ever into courts. He was appointed tutor, or governor, to the sons of Maximilian II.; and when that emperor's daughter, Elizabeth, was married to Charles IX., King of France, he was charged with the commission of conducting her to Paris. There that Queen made him steward of her household; and when she retired from France, on the death of her husband, she left him at Paris as her ambassador, or agent. He also was ambassador at the same court for the Emperor Rodolph down to the year 1592. In the autumn of that year, having obtained permission to make a journey to Flanders and visit his patrimonial estates, he left Paris, and took the route through Normandy. He was in the seventieth year of his age: and now we come to the melancholy conclusion of a long, and honourable, and most useful life. At the period we speak of, France was distracted by the civil war of the League. On arriving at the village of Cailli, about three leagues from the city of Rouen, the venerable Busbequius, the general benefactor of Christianity, was stopped, robbed, and ill-treated by a party of the insurgents. As a man experienced in all such matters, he had prudently procured passports, not only from the King of France, but from the chiefs of the League faction; and when the latter were presented, and the lawless men heard him speak and explain the inviolable rights of his character as ambassador, they set him at liberty, and restored the mass of his baggage. But the good old man would not continue a journey that had been thus brutally interrupted. He caused himself to be carried to the house of a friend at St. Germain, close to Rouen, where, in a few days, a violent fever carried him off. He died on the 28th of October, 1592. His body was buried in a church on the spot;—his heart was carried (whither he had wished to go) to his native district, to be placed in his father's tomb.

His admirable account of his 'Travels' is written in Latin, and in the form of letters to a friend. The Latinity has been much admired by scholars. Several translations have appeared in various modern languages. In these short articles we have quoted from a good old English version which seems to have been first published about 100 years ago. Three or four editions of it appeared during the last century, but the book is now out of print, and little known, except to literary men. The latter half of it is especially rich in quaint anecdote and happy descriptions. The whole of it forms a better book of travels in Turkey than any single work that has been written since the days of old Busbequius.

How to ensure success.—The surest way not to fail is to determine to succeed.—*Sheridan.*

Skull of Queen Matilda.—M. Berzelius, of Stockholm, sent, in 1820, to the Academy of Sciences at Paris, the skull of Descartes, who died in Sweden in the year 1650. Cuvier, to whom the present of the learned Swede was in the first instance consigned, remarked on the occasion, that skulls and other bones might be preserved in leaden chests for 700 years and upwards. In confirmation of this opinion he cited the instance of the skull and bones of the Queen Matilda (who died in the year 1183), which had been found in good preservation in the tomb in her Abbaye-aux-Dames at Caen—*Magasin Universel.*

Ancient Services of Tenants.—In the Harleian collection at the British Museum there is an ancient survey of the manor of Barking, in which the services due from the inferior tenants to the abbess and convent are stated at large. One of them was, among other services, to gather a full measure of nuts, called a *pybot*, four of which would make a bushel: to go a long journey on foot once a year to Colchester, Chelmsford, Ely, or the like distances, on the business of the convent, carrying a pack; and other shorter journeys, such as to Brentford, &c., maintaining himself upon the road. He was to pay a fine for the marriage of his daughter, if she married beyond the limits of his manor, otherwise to make his peace with the abbess as he could. It appears also that he could not sell his ox, fed by himself, without the permission of the abbess. Some of the tenants were obliged to watch and guard thieves in the abbess's prison. There is no reason to suppose that there was any singularity at the time in these stipulations, some of which strikingly manifest the degraded condition of the inferior tenantry in this country at a former period.

OLD METHOD OF TAKING HONEY FROM THE HIVE.

A Correspondent, who apprehends that many of our readers are unacquainted with the manner in which bees are usually deprived of their honey, sends us a description of the process, which he hopes will soon be superseded by the more humane and efficient method of Mr. Nutt, which we have described in No. 113, page 11 of the third volume.

When the time for taking the honey arrives, which is at the end of August or the beginning of September, on some evening after the bees have retired into the hive, a small hole is dug in the ground near to the stand or bench on which the hive rests. This hole is filled with pieces of cotton or linen previously dipped in melted butter; and when all is ready, these are set on fire, and the hive is gently lifted off the stand and placed upon the hole. The escape of the bees is prevented by the earth which is dug out of the hole being heaped around the bottom of the hive; and thus the poor insects perish amidst the sweets for which they have toiled all the summer, and by the hands of those who have afforded them a house in which to lay up their stores. The cruelty and treachery of this measure could only be excused by that necessity for it which has now been superseded. That our readers may have an idea of the number of these industrious little beings deprived of life for the sake of a few pounds of honey, it may be stated that a single hive is supposed generally to contain 16,009 bees, but let us say 10,000,—then, as each hive affords about sixteen pounds of honey, 400,000 bees must be killed in order to obtain, from forty hives, 640 lbs. of honey. When the honey has been expressed from the honey-comb, the comb is boiled in water, which is afterwards strained through a fine sieve, and that which remains in the sieve is the substance called "bees'-wax," so much used for polishing furniture, &c.

If the season proves unfavourable for the gathering of honey the bees are not destroyed, as that would be an unprofitable sacrifice of insect-life, but they are reserved for another season, and fed during the winter with brown coarse sugar, moistened with ale. A wet summer is very unfavourable to the collection of honey; and in a fine summer it often happens that the bees are deprived of their honey by wasps and wild bees. Our correspondent has known instances in which a hive of bees, in a very prosperous condition, have been deprived of all their honey, and a great number of the bees destroyed, by wasps. A wasp will conquer five or six bees at once by means of its sharp incisors, with which it cuts large pieces out of their wings, and thus prevents them from flying; and being unable to reach the hive, which is raised some distance above the ground, and from which the wasps always thrust them, they perish during the night.

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POPE'S TREE.



[Pope's Tree, at Binfield, Berks.]

The village of Binfield, in Berkshire, situated about seven miles west of Windsor, and within the precinct of the forest, is remarkable from having been the residence of Alexander Pope, during his early years. The father of the poet, having accumulated a considerable fortune by business in London, retired to this place during the infancy of his son, and here purchased a house and estate.

Speaking of this house, which, although probably much altered from its original state, is still standing, Pope calls it

—————" my paternal cell.
A little house, with trees a-row,
And, like its master, very low."

About half-a-mile from the house, an interesting memorial of the poet still remains, or at least did so a few years since, when the writer last visited the spot. There is here a fine grove of beeches, pleasantly situated on the gentle slope of a hill, which commands an agreeable though not extensive view of the surrounding country. This grove was a favourite resort of Pope's, who is said to have composed many of his earlier pieces sitting under the shade of one of the trees, below which a seat was then placed. The recollection of this circumstance was preserved by Lady Gower, an admirer of the poet, who caused the words "Here Pope sung" to be cut in large letters in the bark, at some height from the ground; and as this inscription, at the time we mention, was distinctly legible, it was no doubt, at one period, occasionally renewed.

About twelve years ago, when first seen by the writer the tree was standing in a sound state, and apparently little injured by time, although the bark, to the height of seven or eight feet, was nearly covered with the names of visiters, many of which, with the dates, were cut deeply into it.

This interesting relic of the poet (if still in existence) will not, however, endure much longer. When the writer last saw it, a year or two after his first visit, it presented a sad appearance of dilapidation, the upper part of the tree having been entirely broken off by a violent storm which had happened a short time previous, and lying prostrate on the ground, stripped of its branches, as shown in the annexed drawing, which was made at the time.

It is somewhat remarkable that none of the neighbouring trees were injured by the storm, which thus destroyed the object which, for near a century, had consecrated the spot.

COMMON SALT.

WE propose to give a brief account of this great necessary of life, salt, without entering into any purely chemical disquisitions upon its nature and properties.

Common salt is found in a solid state as "rock-salt," or is obtained by evaporating sea or salt-spring water. The evaporating process is conducted either by exposing the liquid to the atmosphere, or by boiling it over a fire. In countries where the rays of the sun possess sufficient heat to occasion rapid evaporation, salt of the finest quality is obtained without the assistance of artificial heat. The sea-water is enclosed in salt-pans, or shallow pits lined with clay: as the evaporation advances, and the salt is deposited, the brine is pumped off till a crust of salt about three inches thick remains. When this crust becomes hard it is broken up, and deposited in heaps in a place protected from rain. A fluid called the *bittern*, containing a number of the earthy bitter salts, continues for a long time to drain from the heaps: the salt indeed is not considered perfectly good till after three years' draining. The result of this process is the "bay salt," so much in request for preserving animal food. The "bittern" is sometimes preserved for the purpose of obtaining from it the sulphate of magnesia, and other substances containing magnesia. Glauber's salts are made from it.

In countries where the sun's heat is too weak to effect the evaporation with sufficient rapidity, and where, at the same time, fuel is cheap, the other process of boiling the liquor is adopted. The boiling is repeated four or even seven times, the boiler being each time replenished with fresh brine. When the liquor is sufficiently evaporated, the salt is left in crystals at the bottom of the pan. From a pan of 1300 gallons from 15 to 20 bushels of salt are obtained every day. In this process the draining which the salt requires after being removed from the boiler seldom takes more than four days. Not only brine must be subjected to the process of evaporation, but even rock-salt, if impure, must be dissolved in water, and again consolidated by heat.

It is supposed that brine-springs are formed by a stream of water flowing through a stratum of rock-salt. It is stated that charcoal is very generally found in strata above brine-springs. Such springs are very numerous in America, and are extensively used in the manufacture of salt. They appear also to be generally of greater strength than the springs of Europe. Yet some of those in England are remarkably strong. Though the strongest brines can yield little more than one-fourth of their weight in salt, the springs of Cheshire afford 22 per cent., in one remarkable case 25 per cent., and in another even 26 per cent. In Switzerland, from 13 to 14 per cent. is the usual strength of the salt-brine springs, and the average is only 11 per cent. in France.

Dr. Reusselaer conjectures that rock-salt is composed of deposits from salt-lakes, or seas, which have now ceased to exist. Some of the salt strata are considerably above the present level of the ocean. In the Tyrol they are 5000 feet, and in Peru 10,000 feet, above the level of the sea. In England, on the contrary, strata are found 420 feet *below* that level. The Zout pans in Africa are deposits of salt in crystals, which Dr. Reusselaer concludes to have been wafted from the coast, where a great evaporation of the sea-water is produced by the action of the sun; and this opinion is authorized by that saltness of the air between the coast and the interior which travellers have remarked.

Salt-rocks and strata are found in all parts of the globe. Dr. Reusselaer states that they extend across America from the Alleghany Mountains to the Pacific, and are found in California. In Mexico the Pennon Blanco are salt-rocks which are worked, and annually produce 1,786,000 bushels of salt. In England the great depositories of rock-salt are in Cheshire, where are also the brine-springs mentioned before. In 1819 six distinct strata of very fine rock-salt were discovered at Vic, in the department of Meurthe, in France; but no use appears to have been made of the discovery. Spain has a singular mountain of salt near Cardona in Catalonia. It is a mass of solid salt, between 400 and 500 feet high, and nearly three miles in circumference. The salt is of various colours, but generally white, transparent as crystal, and remains a considerable time insoluble in water. The inhabitants make it into vases, urns, candlesticks, and other toys and utensils. At La Mancha there is a smaller but similar mass of salt; and near the Ebro is a chain of hills, consisting of salt, sulphate of lime, and limestone. In Germany there are masses of rock-salt in Upper Austria, Styria, Bavaria, Wurtemburg, and the Tyrol. In Hungary and Poland there is an immense deposit of rock-salt on both sides the Carpathian Mountains. It is also found near Ockna in Moldavia, in Transylvania, and in Calabria. In Caramania, in Asiatic Turkey, it is said to be used for building. The Isle of Ormuz, in the Persian Gulf, is a solid mass of fossil salt. In Caubul a road is cut through a mass of rock-salt that rises in a cliff more than 100 feet above the river. In Africa rock-salt is very abundant: on both sides the Atlas Mountains it occurs in great quantities, and is found in Tunis and Algiers. In Abyssinia there is an immense plain of salt, four days' journey in extent.

The uses of salt are very various in manufactures. It enters into the composition of sal-ammoniac,—of glass,—of oxymuriate of lime,—of corrosive sublimate,—of Glauber's and Epsom salts, and of the painter's patent yellow; and it is used in bleaching,—in glazing earthenware,—in assaying metals,—in case-hardening steel, and in rendering iron malleable. But the qualities of salt which render it indispensable to man are its uses as mixed with his food. With every bushel of flour about one pound of salt is used in making bread; thus, it may be presumed that, in bread alone, every adult consumes about two ounces of salt weekly. Salt is *antiseptic* (counteracts putrefaction); and hence meats and fish are preserved by salting. In using salt for this purpose, it should be free from the muriate of magnesia, which attracts moisture. The importance of salt for the support of life is evident, when we consider how much fish and flesh are thus preserved, to be removed from places where they could not be used fresh, to be distributed and consumed gradually through a whole country. In countries where salt is scarce, the want is severely felt. In the States of La Plata, in South America, the sheep and cattle, where they discover a pit of salt-clay, rush together to feed upon it; and, in the struggle, many are trodden to death. In Upper Canada the cattle have plenty of wild pasture to browse on in the woods; but once in a fortnight they return to the farm of their own accord in order to obtain a little salt; and when they have eaten it, mixed with their

fodder, they return again to the woods. Salt is now extensively used in England and in all Europe, for fattening cattle. In Spain they attribute the fineness of their wool to the quantities of salt given to the sheep. In England, 1000 sheep consume at the rate of a ton of salt annually. About 1,000,000 tons annually are given to animals in this country. It is also much in use as a manure for the soil. The proportion of half-a-peck of salt to an area of soil equal to forty yards long by one broad has been found to succeed. About twenty years since, Lord R. Manners applied salt in solution to the irrigation of herbage: one ounce of salt to a gallon of water was used with success: a stronger solution,—of two ounces to a gallon of water,—was found to destroy the blades of grass; but in the next season an abundant crop of herbage came up. Dr. Holland recommends from eight to sixteen bushels of salt per acre. A mixture of salt and soot is a good manure; it is, indeed, the best compound, as manure, into which salt enters as an ingredient. Corn is steeped in salt to prevent smut: in orchards irrigation with a salt solution is recommended; and, spread on the surface of the soil, it destroys slugs and snails in gardens; but it will also destroy vegetation if dropped on the leaves of young growing plants. The use of salt as a manure is not confined to Europe: all the land on the coast is regularly treated with sea-water in China and Hindostan. It is to ferruginous sandy soils that salt is understood to be particularly adapted as a manure.

COD-FISHING IN LABRADOR.

The following account of cod-fishing is abridged from a somewhat diffuse but interesting article on the subject, by the celebrated ornithologist of America, Mr. Audubon.

Though the coast of Labrador is visited by European as well as American fishermen, the business is most extensively carried on by the traders of the latter country, and especially by the citizens of Boston and other eastern sea-ports on the American coast. The vessels employed leave their respective ports from the beginning of May to that of June, that is, as soon as the spring has dissolved the ice, which during the winter had blocked up the Gulf. A vessel of one hundred tons is provided with a crew of twelve men, each being furnished with appropriate clothing, such as waterproof oiled jackets, trousers, boots, &c. The owner supplies lines, hooks, nets, and every requisite for fishing; and the hold is stored with casks, some containing salt for curing the fish, others intended for receiving the oil that may be collected. For every two men there is allotted a "Hampton boat," which, when not used, is lashed on deck, or hung in stays. The baits employed at first are mussels salted for the purpose,—but as soon as the shoals of capelings reach the coast, these are substituted, and not unfrequently the flesh of sea-fowl. At three in the morning the crew are prepared for their day's labour, and ready to betake themselves to their boats, each of which has two oars and lug-sails. They all depart at once, and either by rowing or sailing reach the banks to which the fish are known to resort. The little squadron drop their anchors at short distances from each other, in a depth of from ten to twenty feet; and the business of fishing is immediately commenced. Each man has two lines, and each stands in one end of the boat, the middle of which is boarded off to hold the fish. The baited lines have been dropped into the water, one on each side of the boat, their leads have reached the bottom, a fish has taken the hook, and, after giving the line a slight jerk, the fisherman hauls up his prize with a continued pull, throws the fish athwart a small round bar of iron placed near his back, which forces open the mouth, while the weight of the body, however small the fish may be, tears out the hook. The bait is still good, and over her side the line goes again to catch another fish, while that on the left is now drawn up, and the same course pursued. In this manner, a fisher busily plying at each end, the operation is continued until the boat is so laden that her gunwale is brought within a few inches of the surface, when they return to the vessel in harbour, seldom more than eight miles from the banks. Arrived at the vessel, each man, piercing the fish with an iron spike at the end of a pole, throws it from the boat to the deck, counting aloud the number thus discharged: the boat, being thus unladen, returns again to the fishing station. During the morning, while the fishers have been at their work, the captain, four men, and the cook, have erected "long tables fore and aft the main-hatchway," and also taken to the shore most of the salt-barrels, while they have placed the large empty casks in a row to receive the livers, from which the oil is to be extracted. The hold of the vessel is quite clear, except that a heap of salt is deposited in a corner for use. After dinner the process commences, the men using long sharp knives. One begins by removing the head from every fish, which is effected in a moment by a deep gash of the knife and a peculiar pull; he then slits open the belly, and passes the fish to the next man, who removes the entrails and the liver, the entrails with the head being thrown overboard; the liver is dropped into a cask. A third now receives the fish, dexterously separates with his knife the vertebræ from the flesh, throws the bone into the sea and the fish into the hold, where it is received by three men who complete this part of the process by salting and packing it. In this way six men get through their work so as to be ready for the return of the boat in the evening with a fresh cargo, which is disposed of like the former. At three in the morning they again prepare for another day's labour, and thus continue their toil until the vessel be duly laden. It often happens that there are not less than 100 vessels in the harbour, each of which sends out three boats to the fishing bank. Now each boat procures, on an average, 2000 fish per day, so that the total taken by these vessels during the week will amount to 600,000.

The fish already procured and salted are from time to time taken ashore (at the New Harbour) by part of the crew, who are the worst hands at fishing, the others continuing at their lines. "There, on the bare rocks, or on elevated scaffolds of considerable extent, the salted cod are laid side by side to dry in the sun. They are turned several times a day, and in the intervals the men bear a hand on board at clearing and stowing away the daily produce of the fishing banks. Towards evening they return to the drying grounds and put up the fish in piles resembling so many haystacks, disposing those towards the top in such a manner that the rain cannot injure them, and placing a heavy stone on the summit to prevent their being thrown down should it blow hard in the night."

Such then is the mode of taking the cod till the arrival of the countless myriads of capelings, which migrate to the shallows in July in order to deposit their spawn. "The cods follows them as the bloodhound follows his prey, and their compact masses literally line the shores." * * * "The fishermen now adopt another method: they have brought with them long and deep seines, one end of which is fastened by means of line to the shore; the other is, in the usual manner, drawn out in a broad sweep to enclose as great a space as possible, and hauled on shore by means of a capstan. Some of the men in boats support the corked part of the net, and beat the water to frighten the fishes within towards the land; while others, armed with poles, enter the water, hook the fishes, and fling

them on the beach, the net being gradually drawn closer as the number of fishes diminishes." The number of cod secured at a single haul amounts to many thousands, while a net made by securing a handkerchief at the four corners may be filled with capelings at each sweep in the shallows among the rocks. The seining of cod-fish appears to be a most injurious way of procuring them; for the meshes of the nets are necessarily so small as to imprison thousands of young fish, which are perfectly useless, and which, instead of being returned to the water, as good policy would dictate, are left on the shore to feed ravens, kites, and beasts of prey.

It is not in every case that the cargo of the vessel is dried on shore,—in many instances the fish are merely salted, and carried in this state to different ports, where the owner disposes of them to agents from distant places. The business is very lucrative; and instances are known of men who by industry have in the course of ten years acquired a comfortable independence.

LA TRAPPE.



[The Porter of a Convent of La Trappe, in France.]

When the Reformation occurred, monastic institutions were no longer strictly identified with social interests, but many vigorous attempts were made to arrest their decline, and, if possible, to restore their former influence. Among others who struggled to promote this object, the Abbé de Rancé was one of the most strenuous. In 1636, being then only ten years old, the Abbey of La Trappe had been conferred upon him as a sinecure benefice. In 1664, after a life of dissipation, he suddenly directed the whole powers of his mind to the accomplishment of a rigid reform of his monastery. The rules which he laid down for this purpose were remarkable for their austerity. Each member was called upon daily to devote eleven hours to prayer, and the remaining part to labour and silent meditation. Their diet was of the simplest description, and consisted chiefly of fruit and pulse; flesh, wine and butter were prohibited. De Rancé himself, although often labouring under bodily weakness from the ascetic life which he led, never allowed the energy of his spirit to be daunted; and he died at last on a bed of straw and ashes, at the age of seventy-four. So great was the admiration excited by his superior devotion and mortifications that a new order sprang up called the "Order of La Trappe," the members of which endeavoured to imitate his life. A female community of this order was formed by Louisa, Princess de Condé.

The Abbey of La Trappe is situated thirty-four leagues north-west of Paris, in a valley of Normandy. It was founded in 1140, and derived its name from its impervious situation. It was not approached by any regular path; and, being placed in the gloomiest recesses of a deep wood, its access was difficult, and almost impossible, to a stranger. The conduct of the monks in the sixteenth century procured them the appellation of the "Bandits of La Trappe," and we may therefore readily suppose that all the energy and perseverance of De Rancé were required to effect their reformation. At the Revolution the Trappists were compelled to leave France; but at the Restoration their religious houses were restored to them, and they now possess several establishments in that country. There exists, also, a female convent, in which the poverty, the mortifications, and labours of the order



[A Monk of La Trappe at his Devotions.]

are strictly enjoined and practised. In their convents no sound of social intercourse is heard beyond the salutation, "Memento mori!" (Remember death.) No news from the busy world reaches the inmates. Death and works of penitence alone occupy their thoughts; and each day, we believe, they are accustomed to scoop out a portion of their last narrow resting-place.

A traveller, who visited, a few years ago, one of the establishments of the order in France, in the department of the Landes, has written an interesting description of its appearance, and the habits of the brotherhood. The "Landes" is the name given to a vast uncultivated wilderness in the south of France, on the confines of which the convent was situated. For some miles before reaching it, the way passed through a sort of composite country, made up of woods and thickets, enlivened here and there by small green glades, where springs, or splashes of rain-water, had coaxed up the scanty vegetation; or where some more vigorous pine-tree, peering above its neighbours, had bereft them of their fair portion of light and air, and thus created a space in which it reigned pre-eminently picturesque, with many a naked and sapless branch contrasted with the masses of its dusky foliage. Emerging from thence, the eye rested on the boundless horizon of Les Landes; on which, like gigantic cranes, or herons, in the distance, shepherds were seen, in the costume of the country, stalking about on elevated stilts. At length, on a small piece of common ground, appeared a low wall, surrounding a comfortless, dilapidated-looking structure, comprising the convent and out-buildings. Universal stillness reigned around, interrupted only by the tinkling of the porter's bell, announcing to the inmates the approach of strangers. No bustling footsteps, no hum of voices, betokened an immediate answer to the summons; but in process of time the visiters espied, through a chink in the door-way, a figure descending a flight of steps, and approaching slowly, with his head bent towards the earth, across a spacious court, half overgrown with weeds and rank grass. At length the key grated in the lock, and the gates, turning upon their hinges with a corresponding solemnity, admitted the party, before whom the figure they had seen prostrated himself: after which, on requesting an audience with his Superior, he bowed consent, and slowly waving an arm terminating in a bundle of emaciated and bony fingers, silently led the way. As mass was being performed, the visiters were directed to a small chapel, in which the whole community was assembled, consisting of about half-a-dozen monks in dark-brown robes and cowls, a few noviciates in white woollen vestments, and three in black who were temporary boarders on a penitentiary visit. The walls of the chapel were simply whitewashed, and the wood-work was unpainted;—it was almost a caricature of simplicity. The Superior was kneeling at an altar, nearly as primitive as the rest of the structure, and for a time there appeared no prospect of coming in contact with him. All and everything was noiseless and motionless,—lips spake not, eyes looked not, hands stirred not; when lo! in an instant, the dead silence was broken by a torrent of words, streaming forth from the Superior's mouth with a garrulous rapidity, equally monotonous and unintelligible, and as if the tongue had no other object in its vibrations than to make the most of its brief moments of liberty. Of the nature, language, or meaning of this burst of articulation, no idea could be formed; and they waited patiently till, having run itself down like the rattle of an alarum clock, it stopped. Silence again ensued for a short time, when the service ceased, and the noiseless congregation by degrees dropped off. While waiting for an opportunity of introducing them-

selves to the chief, our travellers followed two or three of the brothers into a small room, and ventured upon a few questions, to which no answers were given, though they were evidently disconcerted, and each eyed and pointed to the other as a hint that the individual thus designated should be the spokesman. Not unwilling to press for an unnecessary infringement of the rules, they retired, and fortunately met another whose scruples were not so insuperable, but his speech was so measured and vague, that it might have admitted a doubt whether he was in actual possession of either his wits or words. Having apologised for the intrusion, the threadbare state of his raiment, and certain other causes which rendered a windward position with respect to his person preferable to what sailors would denominate "hugging him under his lee," led to a question or two relative to change of linen and cleanliness:—"Apparently you are not accustomed to change your dress?" "Never, never," was the answer in a drawling, sepulchral tone. "Apparently, also, you never wash yourselves?" "Never, never," he said again; and certainly, as far as externals went, there was symptomatic evidence of his speaking the truth, the whole truth, and nothing but the truth, though the party were subsequently assured by the superior that an under-garment (which or what garment could not be ascertained) was changed once a week, and that washing was not a prohibited luxury.

The superior himself was a Spaniard by birth, and, judging from his countenance and manner, a second Loyola in character. He was enthusiastic of course, but shrewd and intelligent, and full of energy, and it was evident he had within him wherewithal to play a conspicuous part in the scene of life had he been brought up under more favourable circumstances.

From a copy of the rules which the travellers saw, it appeared that the hour of rising both in winter and summer was half-past one o'clock, and, on certain specified days, at midnight; to which is added the incomparable luxury of sitting bolt upright for several successive hours on a hard-bottomed bench. The diet consisted of roots and vegetables, rice, and a few similar articles, but never either of fish or eggs, and cheese and milk only on rare occasions. Three hours' daily labour was required of each member. The vow of obedience is so strictly enforced, that in no case is it even permitted to an innocent party to exculpate himself from any fault with which he may be unjustly charged. If indisposed, and required to take medicine, the sick man must at once swallow the draught which is presented to him, as the exhibition of a preference for any particular medicament is considered a mark of sensual indulgence, and in point of sinfulness ranked with the desire to partake of meat, to vary the accustomed regimen of the order, or the hour at which it is usual to serve up their repasts. Notwithstanding the apparent absence of temptation which there must be in such a place, there is, nevertheless, a rule prohibiting any admission into the kitchen. The comforts of the fireside may be enjoyed under some restrictions and prohibitions. Shoes or slippers, however, must not be taken off for the purpose of quickening the circulation in a pair of frozen extremities, and the fire is to be kept at a respectful distance. All social ties must be dissolved on entering the convent-walls, friendship being termed "a pagan virtue;" and in relation to social intercourse it is observed,—one of the greatest obstacles to the judicious employment of time is the habit of paying and receiving visits; and the rule which prohibits the brethren visiting each other in their respective cells is lauded as a peculiar specimen of wisdom. The intellectual gratifications, which it might be imagined would be liberally encouraged, are not less circumscribed than the sphere of their bodily enjoyments. The library was of the most meagre description; but yet no book could be obtained from it but with the sanction of the superior, whose liberality in this respect was not very freely exercised. The rules observe that nothing is more pernicious than the perusal of works which are not inspired by the Holy Ghost, and that one of the deplorable abuses of the age is the practice of making use of profane works in the education of youth. The only visible approach to utility in connexion with the establishment was a school, in which a few little children were taught the use of their mother-tongue by one of the order.

The following appropriate reflections conclude the account from which we have borrowed the foregoing details: "My heart sickened as I turned away from the convent-gate, and pondered on the melancholy mummery and strange unsuitable garb in which religion, the greatest boon of God to man, is so often arrayed! and by those, too, whose duty and profession it more peculiarly is to invest it with attractive rather than repellant qualities! And yet I parted from these monks with mingled feelings of regret and respect for men who, with such palpable sincerity, sacrificed so much of the present to the future; with all their faults I could not but respect them still*."

The subject of one of the engravings is the porter of a convent of the order in France, and that of the other a monk of La Trappe at his devotions. They were both taken by an English artist during a tour in 1833.

BEGGEE JÂN.

There are some men the history of whose lives furnishes a degree of interest and instruction much beyond that which the merely personal details they contain could afford; and this proceeds from the incidental illustration which such narratives supply of the character and habits of a whole people. Of this class is the life of Beggee Jân,—a man who raised himself to supreme power among the Usbegs of Bokhara, and rendered himself the most powerful prince between Persia and the Indus. It is under the impression that the measures taken by this remarkable man for the purpose of obtaining power, and of consolidating that power when acquired, include an instructive view of the people with whom he had to deal, that we have prepared the following narrative chiefly from the more extended account furnished by Sir John Malcolm in his 'History of Persia.'

About fifty years since an almost supreme authority was exercised over the Usbegs of Bokhara by the Ameer Daniel, who had possessed himself of the person of the nominal prince. When this Ameer died he divided his wealth among his family, but declared his eldest son, Beggee Jân, to be his heir. This person had, however, for some time previously to the death of his father, clothed himself in the patched garment of a religious mendicant, and shut himself up in a mosque, that he might enjoy his devout meditations undisturbed. When his portion of the inheritance was brought to him, he refused to receive it, but directed it to be distributed among those who had suffered from the extortions of his father. He then clothed himself in the coarse dress of a supplicant for mercy, and hanging a sword around his neck, went through the streets of Bokhara, imploring, with tears in his eyes, the blessings and forgiveness of the inhabitants for his late father, for whose sins he begged that his own life might be taken in expiation. Beggee Jân was before this known to the learned as one deeply versed in theology, and as the writer of some esteemed treatises: but he had not, until this time, appeared before the people, who were

* 'London Magazine,' 1828.

much struck by his apparent humility and sanctity, and crowded around him as if he had been a prophet, joining with him in prayers for blessings upon the Ameer Daniel. Beggee Jân then returned to his retirement, and secluded himself from all but a few chosen disciples.

Having professed himself one of those devotees who seek or have attained a state of mental blessedness and abstraction which leads them to despise all human pleasure and ambition, it was requisite that he should not easily be persuaded to assume that power which the people entreated him to undertake. They were wearied out by the contests among his relations for the power which he seemed to scorn, and crowds assembled daily about the mosque where he resided, and followed him wherever he went. It is said there were at that time several thousands of gambling and drinking-houses in Bokhara, and the first proof which Beggee Jân gave of his authority with the people was to destroy all these houses; and so generally was he reverenced, that even those who were ruined by the measure are said to have assisted in carrying it into effect.

Beggee Jân's own family suffered so much in the conflict for power, that its surviving members at last joined in the general request that he would assume the government. But he continued to refuse, until, upon occasion of a serious commotion in the capital, in which about a thousand lives were lost, the nominal king and all the nobles went to the mosque where he resided, compelled him to attend them to the tomb of his father, and at that sacred spot solemnly invoked him to save his country. Apparently overcome by their entreaties, he promised to give his counsel in the management of public affairs; but he continued to abstain from active interference, until a neighbouring chief, presuming upon the apparent weakness of the government, ventured to invade Bokhara. This so excited the indignation of Beggee Jân, that he accepted the title of Regent, and marched at the head of a large army against the invader, whom he compelled to retreat from the territories of Bokhara, and to abandon some of those countries, the possession of which he had at a former time usurped. From that time Beggee Jân became the actual ruler of the Usbegs, although he never bore any other title than that of Regent, and continued to pay a nominal obedience to Abdool Ghâzee Khan, the nominal king.

It may seem strange that Beggee Jân should have chosen this process of acquiring the power which he might probably have taken, without much difficulty, as the heir of his father. But he knew that merely as the head of a tribe he should, in a station to which he could have no distinct claim, be exposed to the jealousy and opposition of other chiefs; whilst, as a religious mendicant, compelled by his countrymen to assume regal power, he should have no rival to fear, and would be able to establish his authority on a permanent basis. Therefore in his subsequent life he never lost sight of that character in which he had won "golden opinions" from his countrymen. In his regulations for the management of public affairs, he gave to each institution a shape consonant to his apparent situation; and in his private character the temptations which surround a throne had no power to divert him from the practice of that austerity and self-denial which had sanctified his cell. His perseverance in this conduct disarmed his enemies and attached his friends; and ultimately he came to be regarded with such reverence, bordering on adoration, that he found little difficulty in establishing a fabric of power—by the consolidation of the Usbeg tribes, and by victories and successful negociations—which even Persia contemplated with great and just apprehension.

We will now proceed to state some of the more peculiar traits of the domestic government of this remarkable man and furnish some details of his habits in private life.

Beggee Jân abolished the splendid court at which the nobles of Bokhara had been accustomed to attend, and in its place established what may be called a hall of justice, in which he sat as president, assisted by forty mollahs, or learned men. All who had complaints to make came to this hall; but the prosecutor was never allowed to speak unless the accused were present. No person, whatever might be his rank, dared neglect a summons to attend this court, before which even a slave might cite his master. Beggee Jân was accustomed to listen very patiently to the statements of both parties, and in all cases not criminal he sent them away with the advice to endeavour to settle the matter amicably between themselves. If they did so, the cause terminated; but if not, he took notes, at their re-appearance, of the evidence produced; and these were given, together with his opinion on the case, to the mollahs, who were directed to prepare a decision according to the holy law. The parties, even after this, had a week allowed them to accommodate their difference; but if they failed to do so, sentence was then passed, and became irrevocable. Criminal justice was administered according to the Koran. Daring robbers were punished with death; petty thieves by the loss of their right hands; drunkards were publicly whipped. Tobacco having come into use since the time of Mahomet, the Koran says nothing about it; but smoking is rather discountenanced by severe religionists, and Beggee Jân forbade it under severe penalties. From all classes in the city of Bokhara the strictest attention to the forms of religion was required. police officers were continually employed in driving the inhabitants to the mosques to hear the stated prayers; and they were authorized to use their whips to awaken the devotion of the negligent. These officers had also authority to interrogate the persons they met as to their knowledge of the proper prayers, and to inflict summary punishment on such as were found wanting. Of these proceedings we cannot form a proper estimate without recollecting that an attention to the stated prayers is an essential duty of daily life, the observance of which is made imperative upon a Moslem by the Koran, the directions of which have the force of public laws in every Mohammedan country.

The nominal monarch, Abdool Ghâzee Khan, and his family, were supported from the produce of the royal estates. But Beggee Jân drew daily from the same fund from which he paid his soldiers, for the support of himself, his cook, his servant, and his tutor, the sum of one *tungâh* (about five pence) for each, being the amount of the stipend allowed to the poorest student. The wife of Beggee Jân, who was one of the royal family, was allowed only three *tungâhs*. This princess had a fortune of her own, which placed her above the necessity of receiving this pittance; but she took it nevertheless, in order to please her husband, who often told her that it was too much. "That which is actually necessary," he used to say to her, "is alone lawful;" and when she remonstrated, he was wont to add,—"Learn, lady, to be content with little, that thy God may be content with thee." Nevertheless the joy which he felt at the birth of a son induced him to abate the rigour of his domestic regulations. A sum of not less than 5*l*. was allotted for the support of the mother and infant; and an equal amount was given for the support of two other sons the moment they were born. Gradually Beggee Jân showed his intention to educate his children in the enjoyment of the luxuries which, as for himself, he appeared to despise. He allowed his family to reside in a palace; while he himself occupied an unfurnished room, or rather cell, into which per-

sons of all classes were admitted at all hours. He usually wore a coarse and filthy dress, and had every appearance of a common beggar. This dress he seldom changed except when he went to see his family, and then the skin of a deer was thrown loose over his shoulders. Nevertheless the same policy which led him to condemn himself to every privation made him desire to be surrounded with splendour; and there could hardly be a greater contrast than that between the mean and disgusting appearance of this extraordinary man, in all that appertained to him personally, and the display of magnificence and wealth made by his nobles and principal officers.

An ambassador from a neighbouring chief wrote an account of his mission to the court of Beggee Jân. From the long extract from this journal which is given by Sir John Malcolm, we select a few particulars describing the personal appearance and habits of the remarkable man who forms the subject of this article.

"After riding a short distance, we came to a one-pole tent, which I judged, from its size and tattered appearance, to belong to some cooks, or water-carriers. An old man was seated on the grass so near it as to be protected from the sun by its shade. Here all dismounted and advanced towards the old man, who was clothed in green, but very dirty. When near him, they stood with their hands crossed, in a respectful posture, and made their salutation. He returned that of each person, and desired us to sit down opposite to him." * * * "While we were conversing, a great number of nobles came in; and I could not help observing the extraordinary richness and splendour of their arms and dresses. Beggee Jân returned the salute of each of them in a kind and affable manner, and bade them be seated: but the shade of his small tent did not protect one-half of them from the rays of the sun. Soon after their arrival, their chief fell into a deep reverie; and, till evening prayers were announced, he appeared wholly absorbed in religious contemplation. At the time of prayer, all arose and retired."

On a following day, the same person had an opportunity of seeing Beggee Jân at dinner. He says—"His cook, a diminutive person, with weak eyes, came into the tent. 'What do you think of dinner?' said Beggee Jân: 'it will soon be time for prayer.' The little cook immediately brought a large black pot, and, making a fire-place with stones, put four or five kinds of grain, and a little dried meat, into it. He then nearly filled it with water; and, having kindled a fire, left it to boil while he prepared the dishes: these were wooden platters, of the same kind as are used by the lowest orders. He put down three, and poured out the mess. Beggee Jân watched him; and the cook evidently understood, from his looks, when more or less was to be put into a dish. After all was ready, he spread a dirty cloth, and laid down a piece of stale barley-bread (Allah knows in what year of the Hejirah it was baked!), which Beggee Jân put into a cup of water to moisten. The first dish was given to the ruler of the Usbegs, the second was placed between Ishân Nukeeb and me, and the cook took the third to himself, sitting down to eat it opposite his master. As I had dined, I merely tasted what was placed before me. It was very nauseous, the meat in it being almost putrid: yet several nobles who came in ate the whole of our unfinished share, and with an apparent relish which could only have been derived from the pleasure they had in partaking of the same fare with their holy leader. After dinner, I obtained leave to depart."

A few years after this Beggee Jân died, and his eldest son, Hyder Tûrrah, ascended the throne of Bokhara; and assumed, as his father had always intended, not only the dignity, but the name of a sovereign.

STEAM-BOAT EXPLOSIONS IN THE UNITED STATES.

In the American Almanac for 1835 there is an article on this subject which presents us with some important information, and from which we take the substance of what follows.

We are all familiar with the numerous and occasionally distressing reports which, from time to time, have appeared in the newspapers relative to steam-boat accidents on the American rivers. The subject has attracted the attention of the American legislature. Two reports were presented to Congress in the years 1832-33. From these documents it appears that rumour has magnified the number of those disastrous accidents, and the nature of their results. "The whole number of explosions in the United States is ascertained to be 52, number of killed 256; number of wounded 104." Mr. Redfield of New York, agent of the Steamboat Navigation Company, supplies a list of all the steam-boat explosions, giving the name of the vessel, the year in which each accident occurred, the place where it occurred, and, as far as can be ascertained, the number of killed and wounded He says, "In making an approximate estimate of the whole number of lives which have been lost in the United States by these accidents, I should fix it at 300. Although this is a melancholy detail of casualties, yet it seems less formidable when placed in comparison with the ordinary causes of mortality, and especially when contrasted with the insatiate demands of intemperance and ambition. It is believed that it will appear small when compared with the whole amount of injury and loss which has been sustained by travelling in stages and other kinds of carriages. More lives have probably been lost from sloops and packets on the waters of this State (New York) since the introduction of steam-boats than by all the accidents in the latter, though the number of passengers exposed has been much smaller."

Compare this with the rapid increase of steam-boat navigation:—"The amount of steam-boat business in this country has been increased immensely since 1824; and perhaps the average of the preceding by fifty or a hundredfold. In the spring of 1824, but one steam-boat ran in the waters of the Connecticut, and but two from New York eastward, and with a small number of passengers compared with what they now carry. Now we have sixteen or twenty in full activity in that direction. One boat on the Hudson, built in 1825, has carried near 200,000 passengers; and we have sixteen or eighteen boats plying on the Hudson, while southward from this city (New York) the change has been equally great."

And this is only a section of the United States: now numerous steam-vessels are rushing up and down the majestic Mississippi, branching off into the Ohio, the Arkansas, the Missouri, and carrying a stream, an ever-flowing stream, of population into wilds, which, very lately, knew no other lord than the red Indian of the forest."

But though, in the words of the American Congress Committee, "no legislation is competent to *annihilate* those causes" which produce the rather numerous explosions of steam-boat boilers, yet legislation, discreetly applied, may do something; and where it cannot directly reach the evil, it may still, by directing public attention to it, effect its removal through the force of public opinion. The inquiries of Congress will therefore probably tend to the accomplishment of so desirable an object.

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SILENCE.



[From a Print by Sir Robert Strange, after the Picture by Annibale Carracci.]

'Art thou a thing of mortal birth,
Whose happy home is on our earth?
Does human blood with life embue
Those wandering veins of heavenly blue
That stray along thy forehead fair,
Lost 'mid a gleam of golden hair?
Oh! can that light and airy breath
Steal from a being doomed to death?
Those features to the grave be sent,
In sleep thus mutely eloquent?
Or art thou, what thy form would seem,
The phantom of a blessed dream?

Oh! that my spirit's eye could see
Whence burst those gleams of ecstasy!
That light of dreaming soul appears
To play from thoughts above thy years.
Thou smil'st as if thy soul were soaring
To heaven, and heaven's God adoring:
And who can tell what visions high
May bless an infant's sleeping eye?"

The above lines, descriptive of an infant's sleep, by Professor Wilson, are not inappropriately introduced in this place, the repose of a child being exhibited with so much truth and effect, and forming so prominent a circumstance in the painting under consideration. The same lines form the Introduction to the description of this picture in the great national work the 'Musée Français.' The picture, which is called 'Silence,' scarcely needs an explanation, its story being told with so much simplicity as to be at once understood. St. John, being desirous of the company of the infant Jesus, is about to awake him, but is checked by the interposition of the mother, who, with her finger on her lip, enjoins him not to disturb his repose. The principal figure, as well in the intention of the artist as in the perfection of its art, is undoubtedly that of the sleeping child. It is difficult to conceive how the most engaging of spectacles—the soft and happy slumber of a child—could be more correctly represented. The whole frame is abandoned to the listlessness of repose, while the features exhibit such an expression of quiet enjoyment as results from those flitting impressions which probably supply the place of connected dreams to a sleeping child. The inquiring expression in the countenance of the elder boy and the quiet tenderness of the Virgin are also beautifully depicted, although not remarkable in an equal degree with the attitude and expression of the principal figure.

The Bolognese School of Painting was formed at Bologna, in Italy, during the sixteenth century, by the three Carracci—Ludovico, and his two cousins, Agostino and Annibale, who were brothers. Annibale had previo[usly] followed the calling of his father, who was a tailor;

he is considered the most celebrated member of this school. Ludovico's powers of invention were perhaps greater, and Agostino's merits as a teacher more considerable, but undoubtedly Annibale possessed the highest genius. The peculiar merit of each of the three may perhaps be better understood by stating that Ludovico reminds us of Titian, Agostino of Tintoret, and Annibale of Corregio. Annibale possessed, in an extraordinary degree, the facility of sketching to the life whatever came in his way. Having once been robbed, he proceeded to a magistrate, and, instead of giving a verbal description of the thieves, he produced a faithful sketch of their persons, thus showing that a moment of so much excitement had not deprived him of the extraordinary power which he possessed of retaining in his mind the impression of objects. He was of a somewhat careless disposition, but not a man to be offended with impunity. Being provoked on one occasion to fight a duel, he gaily replied,—"As for me I only fight with my pencil. Behold my arms." And at another time, when upbraided by his brother for the little care which he exercised in selecting his associates, he merely occupied himself with making a sketch of his father and mother, with needle and scissors in hand; and, at the close of his brother's lecture, showed it to him for the purpose of reminding him that they had both been brought up in a tailor's work-room. Annibale Carracci was occupied above eight years at the Farnese Gallery, for which the cardinal by whom he was employed only paid him 500 gold crowns. This was so mean a reward for his talents and labour that he would have returned them had he not been persuaded to the contrary. He was, however, so much affected with the ingratitude shown towards him, that it occasioned an illness, of which he died not long after, in his forty-ninth year. He was interred by the side of Raphael, in the church of the Pantheon, at Rome.

The principles of the Bolognese school were a close observation of nature combined with an imitation of the best masters. The rules particularly insisted upon by Annibale were, that a perfect picture should not consist of more than three groups, and not more than twelve figures. An air of repose, grace, and dignity were the qualities which he aimed at infusing into his compositions. Subordinate figures he skilfully threw into the shade, in order that the eye might rest on the principal characters and the more animated portion of the picture.

MINERAL KINGDOM.—Section XXXIII.

Lead.

The appearance of this substance in its metallic state is familiar to every one. It is one of the most useful of mineral substances, and forms one of the most valuable products of the mines of Great Britain. Its specific gravity is considerable, being more than eleven times the weight of an equal bulk of water. It is malleable, and with ease may be reduced into very thin plates; but it is liable to crack under the hammer. It is so far ductile as to be capable of being drawn into wire $\frac{1}{10}$ part of an inch in thickness, but its tenacity is very low; for a wire of that diameter breaks with a weight a little exceeding eighteen pounds. As it possesses no elasticity, it is incapable of compression, and differs in that respect from all the other ductile metals, which diminish in volume, and, consequently, increase in density, under the hammer; but lead has the same specific gravity when it is simply melted as when it is beat or rolled out into plates. It is the least sonorous of all the metals. It is easily fusible, melting at 612°, or a heat less than three times that of boiling water; but not so easily as tin, which melts at the temperature of 442°. When first melted, or when cut, it has a brilliant lustre; but this shining surface, however, is soon tarnished by attracting oxygen and carbonic acid from the air: but this coating of carbonated oxide, once acquired, protects it from farther change. Water has no action upon it; and hence its usefulness for cisterns and pipes. When exposed to the continued action of a stream of hot air, it rapidly acquires oxygen, and is converted into a substance which is called "litharge."

Lead has been sometimes found in the pure, or native, state; but very rarely, and always in small quantity. It is one of the metals which is found in the greatest variety of combinations: but there is only one kind of ore which is very abundant; the rest are chiefly known as objects of interest to the mineralogist;—many of them afford very beautiful specimens for the cabinet. The common ore is a combination of eighty-six parts of lead and fourteen of sulphur, and is called usually by the name of *Galena*, or sulphuret of lead. It very often contains silver, and in sufficient quantity to pay the expense of a process for separating it. That of the north of England contains from 2 to 24 ounces of silver to the ton, and the average quantity is 11½ ounces. The galena of the mine Huel Pool, in Cornwall, yielded 60 ounces; of Guarnock Mine, near Truro, 70 ounces; and a mine near Beeralstone, in Devonshire, yielded galena so rich as to give 185 ounces of silver to the ton. A great proprietor of lead-mines in the north of England had a splendid service of plate made of the silver so separated from the lead-ore.

In geological position, lead is most abundantly met with in the lower strata of the secondary sedimentary deposits, especially in the carboniferous limestone. (O, in Diagram No. 1, 'Penny Magazine' No. 51.) It is found also in considerable quantity in the strata below these, in the grauwacke, clay-slate, mica-slate, and even in gneiss, which is the lowest of the stratified rocks. (Q and R of Diagram No. 1.) It is found also, but more rarely, in the unstratified rocks, both in granite and in trap; but in all the instances that have been mentioned, the granite and trap have always been associated with stratified rocks containing lead-ore. It is occasionally found in the coal-measures (M), but not hitherto in any of the strata above the coal. Galena, next to pyrites, or sulphuret of iron, is the most common of the metallic ores, and it is found in almost every country of the globe; but there are large tracts without any deposits of it in sufficient abundance to be worked.

England produces annually nearly three times as much lead as all the other countries of Europe put together. The chief mines are in the north of England, in Derbyshire, North Wales, and Devonshire, on the borders of Cornwall. The great seat of the north of England mines is in that high district, around the mountain of Cross Fell, where the counties of Northumberland, Cumberland, Westmoreland, the North Riding of Yorkshire, and Durham, meet, as it were, in a central point, and from which they radiate. The mines first become of importance on Muggleswick Moor, on the borders of Northumberland and Durham, about twenty-seven miles from the east coast of Sunderland, and at Blanchland, on the river Derwent, a little to the west of Muggleswick; and they continue to the summit of Cross Fell. Aldstone Moor, in Cumberland, and Dufton, in Westmoreland, are important places in this district; and there are mines in Weardale, Teesdale, Allendale, and Askendale. Mr. Forster reckons that, in this part of England, there are no less than 175 lead-mines, which either have been or are now worked. The prevailing rock is the carboniferous limestone,—that great deposit which lies immediately under the coal-strata in most parts of England. It is associated with strata of sandstone and slate; and there are about twenty different beds of limestone which the miners distinguish by distinct names. The series of strata at

Aldstone Moor, according to a section given by Mr. Winch, consists of about sixty alternations of slate, sandstone, and limestone, in 159 fathoms, or 954 feet. The whole are covered by the coarse sandstone commonly known by the name of "millstone grit." The above dimensions are only a part of the strata where they are bored through in sinking the well, or shaft of a mine; but if we include the whole deposit from the upper surface of the Old Red Sandstone, on which the series rests, we obtain a total thickness of nearly 2800 feet. Beds of trap, one of which is particularly designated the "Whin Silt," a miner's term, are interposed between the strata in several places. The lead-ore occurs in veins, which traverse the strata in various directions, and in many irregular ways, sometimes being very slender, at other times extending to great widths. They are usually of larger dimensions in the limestone than in the slate and sandstone: one vein, which is seventeen feet in a limestone stratum, contracts to three feet in the sandstone below; and they are always much richer in ore, even in proportion to their magnitude, in the limestone. That part of the series which is richest in lead does not exceed 300 feet. The mineral substances which accompany the ore, forming what is called the "vein stone," are calcareous spar, fluor spar, quartz, and a few others of less frequent occurrence. The mines in this part of England have yielded, of late, on an average, about 25,000 tons of lead annually, which is more than one-half of the whole produce of Great Britain; and of that amount nearly a third is obtained from the mines belonging to Greenwich Hospital. In the year 1821, 28,000 tons were raised from the mines of Cumberland, Northumberland, and Durham.

The lead-mines of Derbyshire are situated in the north-western part of the county, extending as far south as the neighbourhood of Matlock. That district is almost wholly composed of the carboniferous limestone, which is surrounded on all sides by the millstone-grit that lies above it. The limestone is very much disturbed in its stratification, and is intersected by dikes and beds of trap. There are limestones of various qualities and colours in the series, chiefly of a grey and fawn colour, but sometimes quite black; and several of the beds being of a texture which receives a good polish, they are used as marbles for architectural and ornamental purposes. The limestone-beds contain numerous great caverns, which are often visited by travellers. The ore is galena; but it contains in general too little silver to repay the cost of extracting it. The vein-stones that accompany the lead-ore are usually calcareous spar and fluor; the latter being the substance which is so generally known by the name of "Derbyshire Spar,"—a beautiful mineral, and capable of forming handsome vases, and such like ornaments. This mineral is a compound of lime with a peculiar acid, which, from having been first found in it, was called "fluoric acid." Farey, in his 'Mineral Survey of Derbyshire,' enumerates no less than 280 mines which had been, or were then (1811), working.

Next in importance to the mines of the north of England, those in North Wales, in Flintshire, and in Denbighshire, are the most productive: a small quantity is raised in Shropshire, and in the neighbourhood of Tavistock in Devonshire. Lead-ore has been found in different places in the Isle of Man, and mines were worked there in the reign of Henry IV.; they were even in some activity as late as the early part of the last century, but they are now almost given up. It is found in the counties of Down and Wicklow in small quantities, sufficient, however, to be worth working. The lead-mines of Scotland are more productive. The most important are those situated in the grauwacke, or slate-rocks, composing the range of hills which runs quite across the south of Scotland, from St. Abb's Head, north of Berwick, and in that part of it called Lead Hills and Warlock Head, on the borders of the counties of Lanark and Dumfries, north-east of Sanquhar. These mines were discovered in the year 1540, and have yielded large revenues to the proprietors ever since. The veins traverse the grauwacke rock from north to south, and vary considerably in thickness, some of the principal ones being from four to ten feet in width. At one time, the Susannah vein exhibited a mass of solid ore no less than fourteen feet thick; this was probably a junction into one of several small veins. Some years ago, the mines of Lead Hills and Warlock Head together yielded about 2400 tons annually. Lead has been wrought at Tyndrum, in Argyleshire, where the ore is found in a bed of quartz, which is part of a series of strata of the primary rock, mica slate; and also at Strontian, in the same county, where the galena traverses gneiss, the oldest of the primary strata. The produce of the different lead-mines in Scotland was at one time estimated to amount to 4800 tons, but it has, of late years, fallen off very considerably. Mr. Taylor, in his 'Records of Mining,' gives an account of the quantity of lead raised from the mines of Great Britain in the year 1828, which, he says, was the result of a careful inquiry among those best acquainted with the subject. It is as follows:—

	Tons.
North of England Mines	26,700
Derbyshire and Shropshire	4,800
Devonshire and Cornwall	2,000
Flintshire and Denbighshire	12,000
Scotland	1,000
Ireland, Isle of Man, &c.	500
	47,000

Five years prior to this, the whole amount was only 36,000.

Nuisances.—The idle levy a very heavy tax upon the industrious, when, by frivolous *visitations*, they rob them of their time. Such persons beg their daily happiness from door to door, as beggars their daily bread; and, like them, sometimes meet with a rebuff. A mere gossip ought not to wonder if we evince signs that we are tired of him, seeing that we are indebted for the honour of his visit solely to the circumstance of his being tired of himself. He sits at home until he has accumulated an intolerable load of *ennui*, and he sallies forth to distribute it amongst all his acquaintance. —*Colton's Lacon.*

Hair and Nails of the Dead.—It sometimes happens that the hair and nails continue to grow after death, notwithstanding the decomposition of the body. The 'Journal des Savans' mentions a female whose hair was found, forty-three years after the interment of the body, to have forced itself through the chinks of the coffin. This hair crumbled on being touched. During the middle ages, such phenomena caused the dead to be regarded as sorcerers. Their bodies were dug up, and, after having been burnt, the ashes were scattered to the winds.

Elephant.—The first instance of an elephant being brought to the west was in the year 807, when the Caliph Haroun al Rashid presented one to Charlemagne. The first which came to England was presented by the King of France to King Henry III., in the year 1255; a notice of the arrival, as well as a sketch of which was preserved by Matthew Paris, in his own manuscript of his 'Chronicle,' now preserved in the British Museum. (MS. Cotton. Nero, D. I.) It arrived at Sandwich, and was conveyed to the Tower of London, where the sheriffs of London had been directed, by the king's precept, to build a house for it, forty feet in length and twenty in breadth. (Rot. liberat. 39 Henry III., m. 11. Rot. Claus ejusd. anni, m. 16.) The animal was ten feet in height to the top of the back, and was ten years old. It lived to the forty-first Henry III., in which year it appears upon the Chancellor's Rolls that, for the maintenance of the elephant and his keeper from Michaelmas to St. Valentine's Day, immediately before the elephant died, the charge was no less than 16*l.* 13*s.* 1*d.* Its keeper was one John Goach.

CHINESE MODE OF FISHING WITH CORMORANTS.



[Cormorant-fishing in China.]

THE Cormorant belongs to a genus of aquatic birds, of which there are about fifteen varieties. The distinctive characteristic of the order consists in the peculiar formation of the foot. The outer toe is the longest, and edged externally by a small membrane; the webbing membrane is broad, full, and entire; the hind toe is half as long as the middle, and all are provided with broad curved claws, but not sharp, and the middle toe is serrated so as to retain with security the slippery prey on which this bird feeds. The cormorant is an excellent swimmer and diver, and also flies well, and the voracity for which it is proverbially famed calls into constant activity the peculiar faculties with which nature has enabled it to satisfy its craving appetite. As soon as the cormorant perceives its prey it darts upon it with destructive rapidity, and soon retains it in security by means of the saw-like indentations of its middle toe. With the aid of the other foot the fish is brought to the surface of the water, and then tossed upwards by an adroit motion so as to be seized by the head. By this means it is swallowed without the fins offering any resistance. The throat of the cormorant is susceptible of considerable expansion, should any obstacle occur in taking its prey. Cormorants are

fond of society, and, except in the pairing season, they are generally found in flocks, and often in company with other water-fowl, which are unmolested except when the greediness of the cormorant tempts it to snatch from them their prey. Owing to its activity and success in fishing, the services of the cormorant have been made use of in another element in the same manner as the falcon. Faber has described the manner in which these operations were carried on. He says,—"When they carry them out of the rooms where they are kept to the fish-pools, they hoodwink them, that they may not be frightened by the way. When they are come to the rivers, they take off their hoods, and having tied a leather thong round the lower part of their necks, that they may not swallow down the fish they catch, they throw them into the river. They presently dive under water; and there, for a long time, with wonderful swiftness, pursue the fish; and when they have caught them, rise to the top of the water, and pressing the fish lightly with their bills, swallow them; till each bird hath, after this manner, devoured five or six fishes. Then their keepers call them to the fist, to which they readily fly; and, one after another, vomit up all their fish, a little bruised with the first nip given in catching them. When they have done fishing, setting the birds on some high place, they loose the string from their necks, leaving the passage to the stomach free and open; and, for their reward, they throw them part of their prey; to each one or two fishes, which they will catch most dexterously, as they are falling in the air."

The practice described by Faber has long been extinct in England, but it is in use in China at the present day. The Chinese cormorant is of a blackish brown on the upper part of its body, the lower parts are whitish, spotted with brown, and the throat is white. The plate represents the manner in which the fishing is managed on the lakes and canals of China, and the process is explained in the following extract from Le Comte, an old French writer:—"To this end cormorants are educated as men rear up spaniels or hawks; and one man can easily manage a hundred. The fisher carries them out into the lake, perched on the gunwale of his boat, where they continue tranquil, and expecting his orders with patience. When arrived at the proper place, at the first signal given each flies a different way, to fulfil the task assigned it. It is very pleasant, on this occasion, to behold with what sagacity they portion out the lake or the canal where they are upon duty. They hunt about, they plunge, they rise a hundred times to the surface, until they have at last found their prey. They then seize it with their beak by the middle, and carry it without fail to their master. When the fish is too large, they then give each other mutual assistance: one seizes it by the head, the other by the tail, and in this manner carry it to the boat together. There the boat-man stretches out one of his long oars, on which they perch, and being delivered of their burden, they then fly off to pursue their sport. When they are wearied he lets them rest for a while; but they are never fed till their work is over. In this manner they supply a very plentiful table; but still their natural gluttony cannot be reclaimed even by education. They have always, while they fish, the same string fastened round their throats, to prevent them from devouring their prey, as otherwise they would at once satiate themselves, and discontinue the pursuit the moment they had filled their bellies."

NARRATIVE OF THE LOSS OF THE EARL OF ELDON BY FIRE.

[From a Correspondent.]

On the 24th of August, 1834, I embarked on board the ship *Earl of Eldon*, of London, 600 tons, Captain Theaker, at Bombay, with a view of returning to my native land on furlough. She was one of the finest and strongest ships in the trade; and any insurance might have been had on the chances of her successfully resisting the winds and waves. She was laden with cotton: and, as the number of passengers was small, the space between decks was quite filled up with cotton-bales, screwed so compactly and tightly as to render it a matter of more difficulty to take them out than it had been to put them in. The number of individuals on board were forty-five, including three ladies and an infant, and the captain and his crew. It unfortunately happened that the cotton had been brought on board in a damp state. It had probably been wetted by heavy rains as it was brought down from the gulf, and had not been dried at the warehouse previously to being screwed. This operation is performed by a very powerful compression; and it seems not unlikely that the fire-damp may be generated within, in the same manner as in a hay-stack when it has been stacked damp.

On the 26th of September, after a series of baffling winds and calms, and heavy rain with squalls of wind, we got into 7° 27′ south latitude; and the trade-wind appeared to have fairly caught hold of our sails. We began now to anticipate our arrival at the Cape. On the morning of the 27th I rose early (about half-past five) and went on deck. I found one of my fellow-passengers there; and we perceived a steam apparently arising from the fore-hatchways. I mentioned at the time to H—— that I thought it might be caused by fire-damp; and, if not immediately checked, might become fire. The captain came on deck, and I asked him what it was; he answered steam; and that it was common enough in cotton-loaded ships when the hatches were opened. I said nothing; but the smoke becoming more dense, and beginning to assume a different colour, I began to think that all was not right; and also that he had some idea of the kind, as I saw the carpenter cutting holes in the deck just above the place whence the smoke appeared to come.

I went down to dress; and, about half-past six, the captain knocked at my door, and told me that part of the cotton was on fire, and he wished to see all the gentlemen-passengers on deck. We accordingly assembled, and he then stated the case to be this:—that some part of the cargo appeared to have spontaneously ignited, and that he purposed removing the bales until they should discover the ignited ones, and have them thrown overboard, as well as those which appeared to be in the same damaged condition; and that it being necessary, in his opinion, to do this, he deemed it his duty to lay the case before us. We of course submitted everything to his judgment; and he ordered the hands to breakfast as quick as possible, and to work to discover the source of the fire.

After breakfast, he said there did not appear to be any immediate danger, and that he hoped we might be able to avert it altogether. However, about eight o'clock, the smoke became much thicker, and began to roll through the after-hatchway, the draught having been admitted forward in order to enable the men to work. Several bales were removed, but the heat began to be intolerable below, and the smoke rolled out in suffocating volumes; and, before nine o'clock, we discovered that part of the deck had caught fire, which obliged the men to discontinue their labours. The captain then ordered the hatches to be battered down, with a view to keep the fire from bursting out; and to hoist out all the boats, and stock them in case of necessity. This was done; and, about half-past one, the three ladies, two sick passengers, an infant, and a female servant, were put into the longboat, with 216 gallons of water, 20 gallons of brandy, and biscuit for a month's consumption; together with such pots of

jam and preserved meats as we could get at, and the day's provision of fresh and salted meat. It was now about two o'clock: the hatches were then opened, and all hands set to work to endeavour to extinguish the fire. The main hatchway being lifted, and a tarpauling removed, there was a sail underneath which was so hot that the men could hardly remove it. When they did, the heat and smoke came up worse than ever; and it being now known, from inspection, that the fire was underneath that part, orders were given to hoist out the uppermost bales in order to get at those that were burning underneath. But when the men laid hold of the lashings to introduce a crane-hook they were found to have been burnt through beneath, and came away in their hands. The case now appeared bad indeed. However, we cut a bale open, and tried to remove it by handfuls; but the smoke and heat became so overpowering that no man could stand over it; and water, in the quantities we dared to use it, only seemed to increase it; for had the captain ventured to pump water into the ship sufficient to extinguish the fire, the bales would have swelled so much as to burst open the deck, or have increased so much in weight as to sink the ship, so that either way destruction would have been the issue.

Under these circumstances, perceiving the case to be utterly hopeless, the captain called us together on the poop, and asked if any one could propose any expedient likely to avail in extinguishing the fire and saving the ship? as in that case, said he, we will stick by her whilst a hope remains. It was unanimously agreed that all had been done that could be done: the men were all perfectly sober, and had been most arduous in their exertions; but one and all seemed coolly and positively decided that the case was hopeless. The heat was increasing so much that it became dangerous to leave the poop; the captain therefore requested the gentlemen to get into the boats; next he embarked his men, and at three o'clock he himself left the ship, the last man who did so, just as the flames were bursting through the quarter-deck. We then put off the two boats, towing the longboat. The progress of the ship had been previously stopped by backing her yards; and when we were about a mile from her, she was in one blaze, and her masts began to fall in. Between eight and nine all her masts had fallen in, and she had burnt to the water's edge; suddenly there was a bright flash, followed by a dull and heavy explosion, the fire having reached the powder. For a few seconds the splinters and flaming fragments glittered in the air, and then all was darkness, for the waters had closed over the *Earl of Eldon*.

Sad was the prospect now before us! There were in the longboat the captain and twenty-five persons, including an infant four months old; the size of the boat 23 feet long by 7½ broad; in each of the others ten individuals, including the officer in charge. One of the boats had some bags of biscuit, but the chief provision was in the longboat. We were, by rough calculation, above 1000 miles from Rodrigue, and 450 from Diego Garcias, the largest of the Chagos Islands; but to get there we must have passed through the squally latitudes we had just left, and been subject to variable winds and heavy weather or calms, neither of which we were prepared to resist. Seeing, then, that our stock of food was sufficient, we determined on trying for Rodrigue, and having humbly committed ourselves to the guidance of that Providence, in whom alone we had hope, we accomplished rigging the boats, and got under sail. On the 3rd day of our boat-navigation the weather began to threaten a change, but as we were in the trade we did not apprehend foul or contrary winds. In the course of the night it blew fresh with rain; we were totally without shelter, and the sea dashing its spray over us, drenched us, and spoilt a great part of our biscuit, though we happily did not discover this until we had almost ceased to want it. The weather grew worse, and one of our small boats, in which were Mr. Simpson, the second mate, with nine others, was split by the sea. She came alongside, and we put the carpenter into her, who made what repairs he could, but with little hope that they would answer. We then proceeded to fasten a spray-cloth of canvass along our weather gunwale, having lashed a bamboo four feet up the mast, and fixed it on the intersection of two stancheons, at the same height above the stern, the spray-cloth was firmly lashed along so as to form a kind of pent-house roof. Had it not been for this imperfect defence, we must have been swamped; and even as it was, we still shipped seas to so great an extent that four men were obliged to be kept constantly employed in baling to keep her clear of water. Towards evening it blew hard, with a tremendous sea, and not thinking the other damaged boat safe, we took in the crew, and abandoned her. We were now thirty-six persons, stowed as thick as we could be, and obliged to throw over all superfluities; and we had not more than eight inches of clear gunwale out of the water. Wet, gloomy, and miserable, the night passed away; at last the day broke, and though the weather was still very bad, I again felt hope, which had never entirely forsaken me, that we should still weather the storm. During the last night the sea had broken right over us more than once; one tremendous sea came roaring down, and while I held my breath with horror, it brake right over our stern, wetted the poor ladies to their throats, and carried away the steersman's hat. The captain then cried out in a tone calculated to inspire us with confidence (which he afterwards told me his heart did not re-echo) —"that's nothing; it's all right; bale away, my boys:" he never expected us to live out the night, but harassed as he was both in mind and body, he gallantly stood up, and never, by word or deed, betrayed a feeling that might tend to sink our hopes. He stood on the bench that livelong night, nor did he ever attempt to sleep for nearly forty-eight hours.

After the change of the moon the weather began to moderate, and we enjoyed a comparative degree of comfort. We had three small meals of biscuit and some little jam, &c., and three half-pints of water per day, with brandy if we liked it. The men had one gill of spirits allowed them daily. Thus we had enough for necessity, and I incline to attribute to our having no more the good state of bodily health we enjoyed. We had plenty of cigars, and whenever we could strike a light, we contrived to smoke, and I never found tobacco so great a luxury as then. The ladies were most deserving compassion and praise, for though they could not move, and any little alteration in their dress could only be made by spreading a curtain before them, they never uttered one single word like repining or complaint. • •

On the thirteenth evening we began to look out for Rodrigue; the captain told us not to be too sanguine, as his chronometer was not to be depended on after the rough treatment it had met with. The night fell, and I went forward to sleep; but, about twelve, I was wakened by the cry that land was right a-head. I looked and saw a strong loom of land through the mist. The captain had the boat brought to for an hour, then made sail and ran towards it, and, at half-past two, it appeared still more strongly. We then lay to until day-light. I attempted to compose myself to sleep, but my feelings were too strong, and, after some useless attempts, I sat down and smoked with a sensation I had long been a stranger to.

With the first light of dawn Rodrigue appeared right a-head, distant about six miles; and, by eight

o'clock, we were all safely landed. A fisherman, who came off to show us the way through the reefs, received us in his house and proceeded to feed us, and, in the meantime, sent to tell the gentlemen of the island of our arrival. Two of them came down immediately, and having heard our story, said that we had been most miraculously preserved, and separated us into two parties, —the married men and their wives to one, and the single ones to the other, while the crew were taken inland and encamped. They then gave our bundles to their negroes, and took us to their houses, where every thing they had was set before us. Every arrangement was made for our comfort, and, during the period of our stay at Rodrigue, we were treated with such invariable kindness and attention as demands from us the fullest expression of our gratitude towards those to whom we are under so many obligations, without forgetting our paramount obligations to that Power by whom we were preserved through all the dangers that had surrounded us.

SPRING.

There is no season of the year so interesting to the naturalist as Spring. A thousand operations in nature now call forth his attention, and crowd upon his notice. Vegetation has commenced in earnest. The folded leaves are bursting through the ground,—the buds are swelling,—and the bark of the trees is covered with a green coat of delicate velvet moss. The snowdrop, the crocus, and the daisy, have already expanded their blossoms, as if to welcome the opening year. Nor is the change which now takes place among the animated tribes of earth, or air, or water, less remarkable. The insect race are teeming around us. The gnat tribe (*tipulidæ*) which even during winter, when the day was sunny, we saw swarming in the air, are now in countless myriads, moving as we move, and dancing around us. The sulphur butterfly (*papilio sulphurea*) flits along the sheltered bank and hedge-row. Several species of humble-bee have left the exuviæ of their chrysalis state in the earth, and are roaming in search of nectar-giving flowers. Numbers of the beetle tribe (*coleoptera*), which, like the dormouse, passed the winter in a state of *hybernation*, are now alert. Of these some had buried themselves, on the approach of the preceding winter, deep in the earth, as the dor (*geotrupes stercorarius*); others, as the water-beetles (*dytisci, hydrophili*, &c.), had burrowed into the mud at the bottom of the stagnant pools, in which they habitually reside; others again, as the rose-beetles (*staphylinus, oxytelus*, &c.), earwigs, and many more, had taken up their winter abode in crevices of walls,—beneath the bark or in the chinks of trees,—some solitary, others in clusters:—but the sun has effectually restored them to their wonted vigour.

There are few reptiles that inhabit the British isles, —and all of them hybernate. The snake buries itself in holes in banks, or retires beneath stacks of wood or heaps of litter; the lizard retreats into a hole or fissure of the ground; the water-newt and the frog plunge into the mud at the bottom of ponds and ditches; the toad creeps into crevices among old walls, or buries itself in the earth at the bottom of hedges or shrubs, —and thus in a dormant state they pass the winter. The frog is the first to bestir itself,—and its loud hoarse croak is heard in every stagnant pool. The female now produces multitudes of eggs, from which in a short time will proceed hosts of tadpoles,—whose element is essentially the water. For the frog, be it observed, begins active existence under circumstances which closely assimilate it to the fish: in its mature state, the frog, as is well known, breathes air, being furnished with lungs of great extent and capacity,—but the tadpole or *larva* of the frog breathes water, and has gills. On its first exclusion from the egg, however, its gills are not formed, but it has ten filaments projecting from the neck for the purpose of aërating the blood; these filaments are temporary gills. The *larva* of the eft, which is likewise essentially aquatic, has similar filaments, which drop off when the gills are formed. The following is a summary of the observations of a celebrated anatomist on the process:—On the 1st of April a number of the eggs of the frog were collected; on the 15th the tadpoles were hatched, but the filaments were not visible,—a deep notch on each side appeared nearly to separate the head from the body. On the 23rd the ten filaments on each side were distinct; on the 27th they had disappeared,—the gills were perfect. In June the external orifice on the right side, for the water to pass off from the gills, was obliterated, but that on the left was still very distinct: it gradually closed. July 8, the hind legs began to appear, but the toes were not separated. 14th. Hind-legs seen externally, and completely formed; the fore-legs were also formed, but concealed beneath the skin of the chest, and only to be discovered by dissection: the *lungs* completely formed. 18th. The elbows of the fore legs projected under the external skin, and the lower part of the body became taper. 19th. Fore-legs disengaged, and the mouth, which was previously small and round, became wide and froglike; the tail had a notch at that part where it afterwards separates. 23rd. The tail dropped off, leaving the projecting root: the animal left the water and remained among the grass. 28th. The root of the tail completely obliterated.

After the frog the newt appears; and soon afterwards the snake leaves his bed to bask in the sun, and the warm showers invite the toad to crawl forth in quest of slugs and insects. Many of the fishes which live in the depths of the ocean now visit our shores in search of sandy or gravelly shallows in which to deposit their spawn; and some, as the salmon, ascend the clear and rapid rivers, advancing far inland, prompted by infallible instinct. The feathered tribes are full of bustle, and their lively notes are heard in coppice, wood, and field. Ever attractive, their actions now become doubly interesting. Some are selecting their mates, others are already preparing for the great work of nidification; nay, some have already callow broods demanding their assiduous protection. A remarkable change has, however, taken place, with respect to the ornithology of our island, and that so speedily, that it seems as if by the impulse of some common cause; and so it is. The warm gales which bring our summer birds of passage (the swallow, the goatsucker, and the nightingale) from the south, give notice to our winter visitors, who in our more temperate latitudes have found an asylum which their native wilds and morasses within the arctic circle denied,—that it is time for them to return,—that the earth is unbound, and the waters thawed. While, then, many have disappeared, many have arrived. Thus may the law of migration be compared to the flux and reflux of the tide; the stream sets northward in spring, and recoils southward on the approach of winter. Many birds common to Europe generally, while they are permanent residents in our island, are migrating in countries towards the north; this is the case with the *thrush*, and the *skylark*, which arrive in vast numbers towards the end of autumn, especially if the winter in the north be of more than usual severity.

Whence come our summer visitors? From Egypt and the northern regions of Africa, their winter place of refuge. Gradually have they been travelling northward, as the season opened,—now delayed, now encouraged to proceed; a few as if impatient to reach their destination, and advancing before the rest, anticipate the spring, and often perhaps perish; hence the adage 'one swallow does not make a summer."

In due time, however, all arrive. Nor is this journey one of toil or difficulty, either going or returning. If we place a map before us we shall see how easily a bird of very moderate powers of flight may pass from our island into France, traverse Spain, and proceed into Africa; but the swallow from our island fears not to cross the Bay of Biscay, and doubtless advances in its aërial course with fewer delays than birds of feebler wing, performing its task with ease and celerity. Latham informs us that the swallow, on its return to Europe, "first appears at Gibraltar in the middle of February, and becomes numerous the first week in March;" and that "in September and the first part of October *myriads* of swallows arrive from the more northern tracts, and migrate daily to the Barbary shore, but always appear most numerous in a W. or S.W. wind." Adanson mentions the swallow as arriving in *Senegal after October.* The flight of migratory birds is mostly, if not always, performed during the night. Woodcocks are well known to arrive during this period; all the day they rest, and at night resume their journey. The red-backed shrike, and the wheatear, which abound on the downs of Kent and Sussex as autumn draws to a close, are well known to cross the British Channel at night, taking the opportunity of a favourable wind. Spring, however, does not rouse the energies of the feathered tribes only; it calls forth such of our smaller mammalia as hybernate from their dormitories. The bat is seen to flit along the lanes, and around the barn,—the hedgehog steals forth as evening closes in,—the dormouse is active, and the water-rat leaves its nightly tracks on the mud of the bank, and among the green chick-weed on the surface of the water. Such then are the effects of spring on the vegetable and animal kingdom; and hence is it a time of interest to the lover of nature,—to him who delights to read her laws and trace her operations. We subjoin an imperfect journal for February, March, and April, recommending our readers to improve it for themselves.

February 1 to 7.	The call-notes of the great tit and the blue tit heard.
"	Early lambs in the pastures.
"	The mole busy: fresh hillocks appearing every morning.
"	Occasionally a solitary bat appears, as we observed a few days since.
"	Hazel ornamented with catkins.
"	Furze in blossom; snowdrop.
—— 7 to 14.	Yellow-hammer chirps its call-note.
"	Brimstone-butterfly now and then seen.
—— 14 to 21.	Raven is preparing to incubate.
"	Rooks are patching up their nests, and clamorous.
"	Partridge calls, and begins to pair.
"	Coltsfoot in flower.
—— 21 to 28.	Notes of goldfinch heard.
"	Viper crawls abroad.
"	Missel-thrush begins to incubate.
"	Frog begins to be heard in the pools and ditches.
"	Stone-curlew calls to its mate.
"	Wood-pigeons pair.
——28 to March 7.	Violet blooms.
"	Wryneck heard.
"	Crow builds.
"	Pheasant crows to his mate.
"	The frog now abundant and clamorous.
"	Peach blossoms.
"	Willow has downy catkins.
"	Ducks and geese prepare to incubate.
March 7 to 14.	Peacock-butterfly seen.
"	Golden-crest (*Regulus*) warbles.
"	Yellow wagtail on the commons.
"	Trout in condition, and takes the fly.
—— 14 to 21.	Blackbird incubates.
"	Wheatear seen in small numbers.
"	Dormouse lively.
"	Hedgehog creeps forth.
"	Bittern booms in the marsh.
"	Turkey lays eggs.
"	House-pigeon has young.
—— 21 to 28.	Common snake seen.
"	Greenfinch chirps.
March 21 to 28.	House-sparrow mates.
"	Chiffchaff appears (*Sylvia Hippolais.*)
—— 28 to April 4.	Sand-martin appears.
"	Yellow-wren (*Sylvia Trochilus*) arrives; and black-cap appears, if the weather be fine.
April 4 to 11.	Swallow appears, and martin.
"	Snipe pipes.
"	Lizard comes forth.
"	Ladysmock in blossom
"	Blackthorn in blossom.
"	Titlark sings.
"	Lark mounts and warbles.
	Garden snail revives.
—— 11 to 18.	Redstart appears.
"	Woodwren arrives (*Sylvia sibilatrix*).
"	Whinchat arrives.
"	Grasshopper-warbler arrives; and the hedge-warbler (*Salicaria Phagmitis*); and the reed-wren (*Salicaria arundinacea*).
"	The cuckoo heard.
—— 18 to 26.	Black slug abounds.
"	Apple-tree flowers.
"	Cabbage-butterfly begins to appear.
"	Cherry and plum in flower.
"	Turtledove coos in the woods.
"	The larger bats appear.
"	Red-backed shrike arrives.
—— 26 to May 7.	Glow-worm shines.
"	Chaffer appears (*Melolontha*).
"	Nightingale and lesser whitethroat arrive in the south: they do not spread to the northern counties.
"	Common whitethroat and garden-warbler arrive.
"	Goatsucker arrives.
"	Swift arrives; and also the spotted flycatcher, if the weather be fine. This is one of the latest of our spring arrivals.
"	The jarring note-call of the green woodpecker may be heard.

American Bear Hunting.—Shortly after this I killed an old she-bear, which was perfectly white. She had four cubs; one white, with red eyes and red nails, like herself; one red [brown?], and two black. In size and other respects she was the same as the common black bear, but she had nothing black about her, except the skin of the lips. The fur of this kind is very fine, but not so highly valued by the traders as the red. The old one was very tame, and I killed her without difficulty; two of the young I shot in the hole, and two escaped into a tree. I had but just shot them when there came along three men, attracted probably by the sound of my gun. As these men were very hungry, I took them home with me, fed them, and gave them each a piece of meat to carry home. Next day I chased another bear into a low poplar tree, when I became convinced of the worthlessness of the gun I had from A-ke-wah-zains, for I shot fifteen times without killing the bear, and was compelled at last to climb into the tree, and put the muzzle of my gun close to his head before I could kill him. A few days after, as I was hunting, I started, at the same moment, an elk and three young bears, the latter running into a tree. I shot at the young bears, and two of them fell. As I thought one or both of them must only be wounded, I sprang immediately towards the root of the tree, but had scarce reached it when I saw the old she-bear come jumping in an opposite direction. She caught up the cub which had fallen nearest her, and raising it with her paws, while she stood on her hind feet, holding it as a woman holds her child, she looked at it for a moment, smelled the ball-hole, which was in its belly, and perceiving it was dead, dashed it down, and came directly towards me, gnashing her teeth, and walking so erect that her head stood as high as mine. All this was so sudden, that I had scarce reloaded my gun, having only time to raise it when she came within reach of the muzzle. I was now made to feel the necessity of a lesson the Indians had taught me, and which I very rarely neglected, namely, after discharging my gun, to think of nothing else before loading it again.—*Tanner's Narrative.*

*** The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

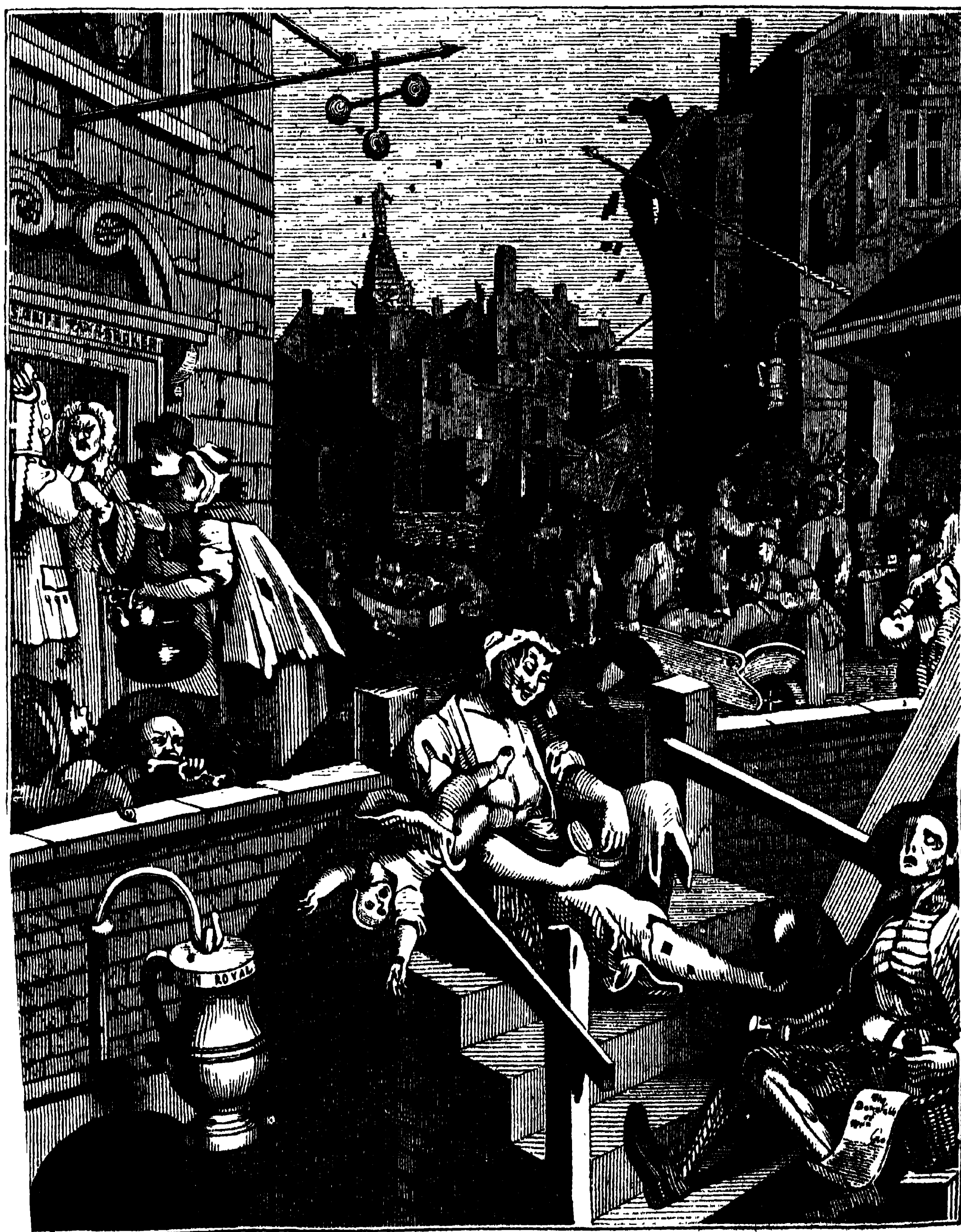
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HOGARTH AND HIS WORKS.—No. XI.



[Gin Lane.]

THE Indians of North America, a bold, active, and intelligent race, present perhaps the most remarkable examples of the intenseness of the passion for drinking ardent spirits. Living, as all uncivilized people do, in a perpetual struggle to supply the commonest wants of life, and enabled to purchase a few only of the necessary products of civilization by their traffic as hunters, they not unfrequently sacrifice the skins they have secured by weeks of incessant labour for a keg or two of rum, presented to them by artful traders. In a book before us, which describes the adventures of a white man, John Tanner, who lived for thirty years amongst these Indians, we find some singular passages descriptive of the mad desire for ardent spirits in which himself and his companions indulged. Our readers will not be displeased with a few extracts from this curious book.

The first instance which he gives of Indian drunkenness is that of the woman who adopted him as her son. She was a person of vigorous mind, and of great authority amongst her tribe:—"The old woman," he says, "being much dissatisfied at the conduct of her son, the disappointment of her hopes of returning to Lake Huron, and other misfortunes, began to drink. In the course of a single day she sold 120 beaver-skins, with a large quantity of buffalo-robes, dressed and smoked skins, and other articles, for rum. It was her habit, whenever she drank, to make drunk all the Indians about her, at least as far as her means would extend. Of all our large load of peltries, the produce of so many days of toil, of so many long and difficult journeys, one blanket and three kegs of rum only remained, besides the poor and almost worn-out clothing on our bodies."

The next passage which we shall give is descriptive of his own folly. The love of rum made the old woman sacrifice her property with a fatal recklessness. The same love made one of her tribe a thief, despised by all, for the Indians have a great respect for property. "I had been drinking something, and was not entirely sober. I put on the chief's coat and ornaments, and taking the keg on my shoulder, carried it home to our lodge, placed it on one end, and knocked out the head with an axe. 'I am not,' said I, 'one of those chiefs who draw liquor out of a small hole in a cask; let all those who are thirsty come and drink;' but I took the precaution to hide away a small kegfull, and some in a kettle, probably in all three gallons; the old woman then came in with three kettles, and in about five minutes the keg was emptied. This was the second time I had joined the Indians in drinking; and now I was guilty of much greater excess than before. I visited my keg frequently, and remained intoxicated two days. * * * It was late at night, but the noise of drunkenness was heard in every part of the camp, and I and my companion started out to go and drink wherever we could find any to give us liquor. As, however, we were not excessively drunk, we were careful to hide away the kettle which contained our whiskey in the back part of the lodge, covering it, as we thought effectually, from the view of any that might come in. After an excursion of some hours we returned. The woman (whom they had left at their departure) was still lying by the fire, insensible as before; but with her dress stripped of its profusion of silver ornaments; and when we went for our kettle of rum, it was not to be found. * * * Having fixed the theft upon an Ojibbeway, Waw-zhe-kwaw-muish-koon went and recovered the ornaments of his wife's dress. This Ojibbeway was a man of considerable pretensions, wishing to be reckoned a chief; but this unfortunate attempt at theft injured his standing in the estimation of the people. The affair was long remembered, and he was ever after mentioned with contempt."

The same fatal passion, in the next instance we find, nearly leads one of its victims to commit a murder:—"Among the presents I had received from the American trader was a small keg containing sixteen quarts of strong rum, which I had brought thus far on my back. Wa-me-gon a-biew and the other Indians had often begged me for a taste of it, which I had constantly refused; telling them, the old men, and the chiefs, and all, should taste it together when we reached home. But now they took an opportunity, when I was absen to look at my traps, to open it; and when I returned I found them all drunk, and quarrelling with each other I was aware of our dangerous and exposed situation, and felt somewhat alarmed when I found so many of us totally disabled by intoxication. I tried, however, to quiet their noise, but in so doing I endangered my own safety. As I held two of them apart, one in one hand, the other in the other, the third, an old man, came behind and made a thrust at my back with a knife, which I very narrowly avoided."

The last instance we shall give is one in which the crime of drunkenness produces self-destruction:—"Net-no-kwa, at Mackinac, was a very promising and highly-respected young man of the Ottowaws, who shot himself in the Indian burying-ground. He had, for the first time, drank to intoxication; and in the alienation of mind produced by the liquor, had torn off his own clothes, and behaved with so much violence, that his two sisters, to prevent him from injuring himself or others, tied his hands and feet and laid him down in the lodge. Next morning he awoke sober, and being untied, went to his sister's lodge, which was near the burying-ground, borrowed a gun under pretence of going to shoot pigeons, and went into the burying-ground and shot himself. It is probable, that when he awoke and found himself tied, he thought he had done something very improper in his drunkenness, and to relieve himself from the pressure of shame and mortification had ended his days by violence."

We have selected from the scanty records of savage life these striking examples of the effects of drunkenness, to point out how the same vice produces exactly the same evils in what is called civilized life. The evils in the latter case are indeed aggravated by the constant facility for indulgence in the vice. The gin-shop is ever open to the habitual drunkard, who, day by day, exchanges his property for the fatal stimulant, till he sinks into the grave a prey to incurable disease and hopeless poverty. The lodge of the white trader is open once or twice a year to the passionate Indian, who at once sacrifices the labour of weeks for a day's indulgence, and then returns to his woods, naked and starving, to obtain another load of skins for the same fraudulent traffickers. The immediate effects in each case are too often the same,—frightful improvidence, robbery, murder, and self-destruction.

Are the fearful and disgusting forms in which the vice of drunkenness is exhibited in Hogarth's 'Gin Lane' exaggerated? We think not. The same crime and the same wretchedness may not be huddled together in one spot; but there is abundant evidence to show, that, wherever drunkenness habitually prevails, the same tragical scenes,—the same in kind, however they may differ in degree,—are presented. We have already given Charles Lamb's description of this print, "full of strange images of death;"—we refer our readers to that description*.

We have always considered it one of the greatest merits of Hogarth, that he not only tells the story of his pictures with incomparable effect, but that the stories themselves are truths. They are not always, nor perhaps often, pleasing truths; but still they are truths of much more value to us than they were to the contemporaries of the artist. *They* probably admired chiefly the tact

* Vol. iii., p. 122.

with which the painter had hit off the manners of the day; while to *us* they have the grave historical value of materials which afford us an insight we could not otherwise obtain into the condition, habits, and pursuits of the people in a past age. Putting before ourselves the picture of 'Gin Lane' under this view, who is not constrained to ask,—"In what were the days of our fathers better than our own?" None can lament more deeply than ourselves the scale on which habits of intemperance are exhibited in this country, and the facilities which are afforded for the indulgence of such habits. We have never, however, subscribed to the justice of the outcry against the increased intemperance of the age beyond all former ages. Our wood-cut may be accepted as one proof to the contrary; if only as showing that the intemperance of the people was as much a subject of satire and complaint eighty years ago as it is at present. Compared with the amount of the population, the quantity of intoxicating liquors consumed now is much less than in the time of Hogarth; and the number of places for the sale of such liquors has equally decreased. There are two other points also which are of great importance in this comparison.* The number of *habitual* drunkards has actually diminished, as considered with a view to the increase of the population; and the habitual drunkards are now more exclusively in the very lowest class of society than at any former period. On referring to the evidence taken before the Select Committee for Inquiry into Drunkenness, we find our impressions on these points substantiated by the statements of those witnesses who appear to possess the largest amount of practical knowledge on the subject. We could quote much interesting information illustrative of the view we have taken; but what will suit our immediate purpose of commenting upon Hogarth's print, is to avail ourselves of the speech of Lord Cholmondeley, as given in the 'Parliamentary History,' vol. xii. p. 1213, to furnish a short account of the various liquor acts previously to 1743, in connexion with the evidence of Mr. Francis Place before the Committee, with reference to the legislative measures taken about the epoch of Hogarth's picture, with a view of placing a check on the evil of drunkenness.

Lord Cholmondeley, after dwelling on the inefficacy of direct legislation on the subject, and affirming that spirits would certainly be obtained from abroad, if the manufacture were prohibited at home, proceeds to state that the consumption of French brandy was very large during the reign of Charles II., and excited some discontent, it being thought that the nation lost by not distilling at home. Charles granted to a company the privilege of distilling brandy from wine and malt. After the Revolution of 1688, when French commerce was prohibited, any one was left free to set up a distillery, provided ten days' notice was given to the Excise.

This measure much increased the consumption of home-made spirits; and the farmers in particular were sensibly benefited by it. The act, which was at first made for five years, was continued for one year longer and then expired. In an act passed the very next year, 8th and 9th of William III., a clause was inserted, by which any person might, on giving ten days' notice to the Commissioners of Excise, carry on the business of a distiller.

The trade being thus free, many persons of London and Westminster entered upon it with zeal; and it was prosecuted with success, although strong efforts were made by the Vintners' Company to retain it in their own hands. In the Mutiny Act, passed the first year of George I., the houses of distillers, who did not allow of tippling in their houses, were expressly excepted from being burdened with the quartering of soldiers. At a still later period, the legislature continued to indicate their desire of encouraging the British distillery. In the 12th of George I. it was enacted that, if any merchant-importer should refuse to pay the duties for wines, as being damaged, corrupt, or unmerchantable, which, by a former act, were in that case to be staved and destroyed, the Commissioners of the Customs might cause such wines to be put into warehouses, and publicly sold in order to be distilled into brandy, or made into vinegar.

Under these repeated favours and encouragements the British distillery flourished, and increased to a great degree; so that the home manufacture not only greatly lessened the importation of foreign spirits, but great quantities were exported yearly to to Africa and other places. In the mean time an evil imperceptibly arose from what in all other trades is an advantage: our distillers became so expert in their business, and sold their manufactures so cheap, that our poor began to drink it extravagantly, and to commit frequent debauches in it, to the destruction of their health, their morals, and their industry. This evil became at last so great that it gave a violent turn to the temper of the legislature; and nothing could satisfy it but a total prohibition of all compound spirits, which were the most palatable, and, consequently, most used, as well as abused, by our poor. This occasioned the law of the 2nd of George II., by which a duty of 5*s.* per gallon, over and above all other duties, was laid on all compound spirits; and every retailer of such spirits was obliged to have a licence, and to pay 20*l.* yearly for the same. This was really a total prohibition of any man's retailing such spirits in an open and fair manner; but many continued to do it privately, and the law was evaded by making and retailing a simple sort of spirit, in derision called "Parliament Brandy," so that the debauching in spirituous liquors continued as general among the poor as ever. The law was therefore ineffectual: the farmers complained, and the legislature again took another violent turn. In the 6th year of George II.'s reign the preceding act was repealed, "without making any regulation for preventing the excessive use of such liquors." This, says Lord Cholmondeley, of course produced a very bad effect: the poor being restored to their liberty of getting drunk as usual, like men set free from a gaol they made a most extravagant use of that liberty; and this revived in the legislature a temper more violent than ever against the use of any sort of spirituous liquors. An act was passed in the 9th year of George II. by which the retailing of spirituous liquors of any kind was in effect absolutely prohibited.

"The impossibility of executing this law," said Lord Cholmondeley, "was foretold, both within doors and without; but so furious was our zeal, that no heed was given to such prophecies. What was the consequence? No man could—no man would—observe the law; and it gave such a turn to the spirit of the people, that no man could with safety venture to become an informer. Even the very commencement of the law exposed us to the danger of a rebellion: an insurrection of the populace was threatened—nay, the government had information of its being actually designed, and very wisely ordered the troops to be ordered out and paraded in the several places where the mob was likely to assemble, which, perhaps, prevented a great deal of bloodshed; and the law began to be executed without any forcible opposition. As there were multitudes of offenders, there was presently a multitude of informations; but as soon as any man was known to be an informer he was assaulted and pelted by the mob wherever they could meet with him. A noble peer was obliged to open his gates to one of these unfortunate creatures, in order to protect him from the mob, who were in full cry, and would probably have torn him in pieces if they could have laid hold of him, for they had before actually murdered one of these informers."

It appeared also that even magistrates endangered their safety by the exhibition of zeal in the execution of this law; and between intimidation and the expenses of prosecuting, it became a dead letter: the people, according to the statements of the noble speaker, became more than ever addicted to the excessive use of ardent spirits.

In the evidence of Mr. Place, to which we have alluded, it is shown that within the period embraced in the preceding statement, that is in the year 1736, a report was made at Hicks's Hall by eight justices, who were appointed to make inquiry into the subject, that within Westminster, Holborn, the Tower, and Finsbury divisions, exclusive of London and Southwark, there were 7044 houses and shops in which spirituous liquors were sold. They believed this short of the true number, and computed that there were not less than 20,000 such houses within the bills of mortality. It was considered, at the same time, as a low estimate, that there were 20,000 other such shops in England alone. At a period about ten years subsequent, and therefore more nearly approaching to the date of our picture, a report, probably more authentic, made by the magistrates to a Committee of Parliament, states positively that there were 12,000 gin-sellers in the metropolis, exclusive of the city and Southwark; and the Bishop of Salisbury, in his speech, says that there were 7044 licensed for spirits, and 3007 alehouses; and that boards were put up inscribed with "You may here get drunk for one penny; dead drunk for twopence; and have clean straw for nothing*." The report last adduced confirms the preceding statement, that there were 20,000 houses and shops for drinking within the bills of mortality. On authority, at least equally certain, the Population Returns for 1831, we find that the number of public-houses and gin-shops within the largest extent of the metropolis, did not exceed 5000,—an amazing difference, which allowing for the greater extent of these establishments in the present time, would hardly allow us to imagine that the people are more addicted to intemperance now than they were ninety years since.

We shall not arrive at any better conclusion in behalf of the habits of the people in Hogarth's days, as compared with our own, if we simply consider the quantities consumed at the respective periods. It appeared, from the investigations of a Committee of the House of Commons, that, in 1742, 19,000,000 gallons of spirits were made from malt, and 800,000 gallons from foreign materials, in England and Wales. It does not appear that any of this quantity was exported. Now we find that the British and Foreign spirits retained in this country for home comsumption, in 1833, amounted to no more than 26,770,000 gallons; whereas, if to the account for 1742 we add about 3,000,000 gallons of foreign spirits, and consider that the population has doubled since that period, not less than 46,000,000 gallons would be required if the people were not more temperate in 1833 than in 1742.

The low price at which gin could be obtained at the earlier period was, doubtless, a principal cause of its extensive use. The prices of gin were thus stated by Lord Carteret: gallon, 2*s.* to 2*s.* 8*d.*; quart, 6*d.* to 8*d.*; and so down to a farthing's worth.

The state of the population of London at the present time, with regard to open drunkenness, is by no means satisfactory, although, compared with the numbers of the inhabitants, it cannot be called very large. In 1831, there were taken up in the metropolis, in a state of drunkenness, and brought before the magistrates, 5420 males and 2146 females: in 1832, 4893 males and 2041 females; and in 1833, 7535 males and 3858 females. The number discharged, when sober, by the Superintendents of Police was, for the same years, as follows:—1831, 14,328 males, 9,459 females; in 1832, 15,411 males and 10,291 females; and in 1833, 10,733 males and 7,754 females. The total numbers taken up in a state of intoxication were, therefore, for 1831, 31,353; 1832, 32,636; and for 1833, 29,880. This is a formidable statement, but the amount is not so frightful when it is analysed. It is 81 per day, which in a population of 1,776,500 souls, a twenty-fifth part of whom are soldiers, sailors, and wayfarers, is one in about 22,000. It might be supposed, from the great publicity of gin-shops, that they are everywhere increasing. This is not the case. By an Act of Parliament, passed a few years since, security was given to the traders in liquors to carry on their business without interruption, as long as they adhered to certain regulations. They have been therefore enabled to attract the passengers by displays of finery which did not formerly exist. We do not think the evil is greater for this display.

We believe, then, that the progress of education, and of good morals, which are the result of education, have diminished the amount of intoxication since the days of Hogarth. But at the same time we cannot doubt that the individual cases of crime and suffering produced by indulgence in ardent spirits especially are as horrible as any represented in Hogarth's 'Gin Lane.' The evidence given before the Parliamentary Committee is conclusive on this point, though it certainly does not show that the aggregate amount of this vice has increased. We shall select one most striking instance of these individual horrors.

Mr. Broughton, one of the magistrates of Worship-street Police-office, detailed before the late Committee the following particulars as to the degraded condition in which he found a family, who might have been highly respectable, and surrounded with comforts and luxuries, but for the vice of intoxication. This family consisted of a man and his wife, and four children. Mr. Broughton says:—"There was no bed in their room, but a few old rags in the corner into which they were huddled. I found that the woman, two years before, had borne a most respectable character; the man was a mechanic, and could earn, certainly, two guineas a week. With the property which had been left to himself and his wife he might have been in possession of an income of 200*l.* a year." Their eldest son was an intelligent lad of ten years old, and from him Mr. Broughton obtained additional information as to the helpless state of misery into which the family had fallen. "I found," he says, "that the woman regularly rose from the rags on which she slept: the father, the wife, and the baby, slept together on one batch of rags, and the others huddled up in a corner, without any rags at all; and the father and mother went immediately into the gin-shop, and the same gin-shop. I had the keeper of the gin-shop before me; it was kept by a woman, and she certainly seemed ashamed of it. And the boy described his mother as getting up and going into the gin-shop; and the biggest boy then went out into the market, and tried to get a few pence by holding horses, leaving the other children to wander about, and pick up cabbage-leaves, and so on, to eat; they never were washed; they never were carried to a church: and the whole of this was brought on by drinking. The man shook like an aspen leaf, and the woman was reduced to the greatest state of misery and wretchedness; she had scarcely a rag on. I believe she had not undressed herself for many months; and they had become addicted to these habits; and then, when his money was all exhausted, the man went to work; but there was no money expended on the education of the children, and they had never been washed. They were like a dog and whelps; they all lay down together and got up together; the children sent out, and those children

* This is the inscription on Hogarth's gin-cellar.

could be nothing, if left to themselves, but thieves; and that was brought on by habitual spirit-drinking, first taking possession of the mother, and then the husband got into the practice; and there was no breakfast ever had, and no tea: there was not one of the comforts or conveniences of civilized life." Nothing in 'Gin Lane' could be worse than this.

One of the means which the good sense and benevolent feelings of some real benefactors of their race have devised for the repression and final removal of the miseries which drunkenness produces, has been the formation of Temperance Societies.

These praiseworthy institutions commenced in the United States. Before the influence of Temperance Societies had been attended by the successful results which have since followed their introduction in the United States, the consumption of ardent spirits annually for 12,000,000 inhabitants, was estimated at 45,000,000 gallons. The expense to the consumers was not less than 35,000,000 dollars. The proportion of persons dying directly and notoriously of drunkenness and long-continued habits of intemperance was one in twenty-four, or 10,000 in the course of every year. The amount expended in ardent spirits would, if invested in the best manner, have called forth ten times the amount of productive labour that it did when thus misused. No tax can be more oppressive or ruinous than this, levied by a tyrannical habit. So grievously did the Americans suffer from it, that they organised an opposition to this destructive system, which is, perhaps, one of the most remarkable examples of national energy on record. The American Temperance Society was formed in February, 1826. In 1830 it had 1605 minor societies, acting in concert with the parent establishment. The basis on which they were established was entire abstinence from ardent spirits. Within four years after the formation of the first society, 160,000 had become members of the various auxiliaries, and their influence was in operation amongst every class of the community. Societies were formed by females, by the young, by mechanics, by apprentices, by people of colour, in churches, and by soldiers and sailors. The effect of this great combination soon diminished the numbers of distillers and of dealers in ardent spirits. In four years 667 dealers had withdrawn from trade. In one year after the establishment of a Temperance Society in the State of New York, thirty-five distilleries had discontinued their operations.

In Sandy Hill, New York, where twenty licences had been previously granted, two only were required. In some places the retail trade had entirely ceased. The importations of foreign distilled spirits, which in 1827 amounted to 4,847,258 gallons, for the year ending September, 1829, had diminished to 2,515,878 gallons, a diminution of nearly one-half, although Temperance Societies had not acquired the power which they have since done in checking the use of spirits. At the same time the consumption of domestic spirits was everywhere less. In 1826, 114,277 gallons were brought into Fredericksburgh by water; in the year ending July, 1830, 52,621 gallons. From August 1 to December 1, 1828, the quantity of whiskey that passed Utica on the canal was 1,053,305 gallons; during the same months in 1829, only 345,159 gallons. A great increase had taken place in these corresponding periods of the quantity of wheat and flour passing along the canal. In 1828, 2,714,204 gallons were inspected in the west district of the States; in 1829, 1,822,400 gallons. The consumption of the whole population had diminished one-third. An amount of 7,800,000 dollars was saved in the consumption of this pernicious article. At this early period of the existence of Temperance Societies, 700 cases were mentioned of the reformation of habitual drinkers.

Four years later, *i. e.* about seven years after the formation of the first society, the effects which had been produced in the States were still more important. Five thousand Branch Societies had been formed, more than twenty of which embraced a whole State as their sphere of action; and they included among their members men of the first rank and character in America. The whole number of members amounted to a million. The sixth Annual Report of the General Society stated that 2000 persons had discontinued the business of distilling; more than 6000 had given up the retail trade; and 5000 drunkards had left off their habits of intoxication, and become sober men. Seven hundred vessels, visiting every clime, made long voyages without supplies of spirits being given to their crews; the result of which was proved to be beneficial to the men, who enjoyed improved health, and advantageous to the community generally, as the risk from accident being diminished, the premium paid on insuring vessels which took no ardent spirits was less than the ordinary rate. The same improvement was also said to be visible in the character, and habits, and mental and bodily constitution of the inhabitants of many villages, manufacturing establishments, and the whole mass of the population generally.

The example of America has been communicated to this country. Temperance Societies have been very generally formed here upon the same principle of entire abstinence from spirits. The success of these societies has not been so great here as in the United States—perhaps because the evil to be arrested was not so general. The number of members belonging to Temperance Societies in England and Wales, according to the 'British and Foreign Temperance Herald' for February, 1835, is 106,945. The Society is making considerable exertions to increase this number; and, from a document in the same publication, we perceive that 2326 adhered to the temperance plan in the month of January. In Lancashire there are 29,198 members; Yorkshire 12,045; Cornwall 10,575; Middlesex 7,158; Gloucestershire 4,170; Somersetshire 3,628; Durham 3,308; Cumberland 3,047; Devonshire 2,359; Cheshire 2,341; Warwickshire 2050; Surrey 2,039. None of the remaining twenty-eight counties contain 2000 members; and Wales possesses only 1864.

But temperance societies, however valuable they may be as examples of what may be effected by a prudent abstinence from a pernicious indulgence, are not likely, in this country, to be the main cause of the establishment of universal habits of sobriety. That good will be effected by the general progress of education, which will lead all men to cultivate intellectual pleasures instead of those which are merely sensual. Education, and the refinement which it produces, has already rooted out the vice of drunkenness among the higher classes. By the same means must the work of improvement be effected among other orders of society. There is, however, a peculiar difficulty in directing education to this end amongst those addicted to habits of intemperate drinking. With them, the craving appetite for drink is paramount in its demands. The education of children cannot go on, because the resources for education are swallowed up by the selfish and slavish habit of intoxication. Faculties, which might be reared up into usefulness and become an honour to society, must run to weeds and rankness, and prove utterly unprofitable to their possessor, and a bane to the community, because a father must first indulge in degrading gratifications. The consequence is well pointed out by Mr. Collins, of Glasgow*, that "children who have drunken parents are generally worthless and profligate; the incessant action of evil example being constantly before

* Evidence before the Committee on Inquiry into Drunkenness.

them, counteracts the effects of education which we gratuitously furnish to them."

Such is the hopeless misery into which drunkenness plunges families and generations. On the other hand, it is gratifying to observe that education is actively at work in improving the general character of the great mass of the people. For the last thirty years they have been steadily making progress. This fact is supported by a number of highly-respectable men, some of whom were examined last year before the Committee on Drunkenness. Mr. Francis Place, who is thoroughly acquainted with the past and present condition of the working men of London, shows that their amelioration in this respect is beyond a doubt. In his evidence before the Committee, Mr. Place says:—"I can remember the time when in almost every printing-office there was a bottle of rum, and the workmen served themselves with it, and kept a score against themselves. I remember when almost every tailor's shop in London had a bottle of gin, and the man who kept the score for the publican was paid by having a glass out of a certain quantity. I know that now there is no such thing, and that there has not for many years been a rum-bottle in a printer's office, nor a gin-bottle in a tailor's shop. I know that at one time it was the common practice for journeymen of different descriptions, as they went to their work before six o'clock in the morning, to drink purl and gin; it was the common practice for every workman to have a pennyworth of hot purl and a half-pennyworth of gin before work, and this inevitably muddled them. There is no such thing now." Mr. Place is of opinion that the drunken part of the community has separated very much from the orderly portion, just as is the case with thieves and honest men. Again, in his evidence, Mr. Place says:—"Thirty or forty years ago almost every journeyman and workman got drunk when he had the means; they were not to be compared with the men of the present day. I can give you a reference to large manufacturers about London who would satisfy you of their temperance as compared with former times. If you look to the Report of the Committee on Combinations, in 1824, you will find the names of Mr. Galloway, Mr. Donkin, Mr. Bramah, Mr. Maudsley, and Mr. Hague, engineers, employing large numbers of men, and of Mr. Richard Taylor, of the city of London, printer, who at that time gave evidence of the general improvement of the working people, and the increase of temperance among them. These respectable men, with a number of others, would now come before you, and show that there has been a steady improvement in soberness in all those large businesses since 1824."

In the evidence of Mr. John Vousley, publican, Bermondsey, given before the Sale of Beer Committee in 1830, we see the improved habits of the people in regard to the use of ardent spirits accounted for. This individual carried on a large trade among tanners and fell-mongers,—men whose employments are wet and cold. He says,—"Only a few years ago there was not anything like what are called coffee-shops. I used to make a good deal of purl—I do not make any now—people's tastes are altered—they frequent coffee-shops." But why do people now take coffee instead of gin and purl, and by what process are people's tastes altered? Simply because they have been informed, and clearly understand, that health and comfort are secured by one mode, and that the practice of the other is not so serviceable to the body, and that it leads to habits fatal to their character and respectability. The great body of the working-classes are now in possession of elements of enjoyment superior to those in which they were formerly wont to indulge, and the range of their experience and observation places more clearly before them the advantages of sobriety and regularity. As Mr. Place supplies interesting evidence of the direct manner in which education and a love of information may be supposed frequently to operate, we give it here as an encouraging illustration of the advantage of directing the mind to the acquisition of useful knowledge. The Committee having observed that news was the chief ingredient by which curiosity might be awakened, Mr. Place said,—"I would not say that entirely. I think the 'Penny Magazine' is an exciting publication. I know that if you teach ignorant men, especially young men, something of geography, and something of natural history, you give them a taste for reading which hardly ever leaves them. I can give you an instance,—a striking one,—which may stand for the character of a large class as to the efficacy of *a little learning*. I was going up Constitution Hill one Sunday in the spring, when the moon was up, just before church-time; I overheard three lads; they appeared to be what are termed serve-boys, plasterers' labourers; the middle one was a lad of seventeen or eighteen; the other two were about fifteen or sixteen. I heard the eldest lad say, 'There is the moon!' 'Yes,' says another. 'The moon is round, do you not see?' said the largest boy. 'Yes,' said the other. 'That is a part of the solar system.' 'What is that?' asked his companion. 'Oh, do you not know what it is?' The lad then explained to them the solar system, beginning with the sun in the centre, and describing the planets, their size, distances, motions, &c. When I got a little farther, some vagabonds were being turned out of a gin-shop, among them was a lad about the same age as the eldest of the three boys; he was three parts drunk, and began to spar in the street, offering obstruction, to draw the passers by to his folly. The inference which everybody must draw who had witnessed the fact is, that that lad who was teaching the solar system could not have come out of a gin-shop three parts drunk, so early on a Sunday morning, and have made the same disgraceful exhibition."

The companion print to Hogarth's 'Gin Lane,' is given in the last page of this number. 'Beer Street,' in our opinion, is as just a satire upon one species of intemperance as 'Gin Lane' is upon another. Mr. Macnish, in his 'Anatomy of Drunkenness,' takes this view of the matter. He says,—"No one has ever given the respective characters of the malt liquor and ardent-spirit drunkard with greater truth than Hogarth in his 'Beer Alley' and 'Gin Lane.' The first is represented as plump, rubicund, and bloated; the second as pale, tottering, and emaciated, and dashed over with the aspect of blank despair." The "plump, rubicund, and bloated" figures in 'Beer Street' are as surely indicative of intemperance and consequent disease as the "pale, tottering, and emaciated" wretches of 'Gin Lane.' Mr. Macnish gives the following description of the effects of beer drunkenness:—

"Persons addicted to malt liquors increase enormously in bulk. They become loaded with fat: their chin gets double or triple, the eye prominent, and the whole face bloated and stupid. Their circulation is clogged, while the pulse feels like a cord, and is full and labouring, but not quick. During sleep, the breathing is stertorous. Everything indicates an excess of blood; and when a pound or two is taken away, immense relief is obtained. The blood, in such cases, is more dark and sizy than in the others. In seven cases out of ten, malt-liquor drunkards die of apoplexy or palsy. If they escape this hazard, swelled liver or dropsy carries them off. The abdomen seldom loses its prominency, but the lower extremities get ultimately emaciated. Profuse bleedings frequently ensue from the nose, and save life, by emptying the blood-vessels of the brain.

"The drunkenness in question is peculiarly of

British growth. The quantity of malt-liquors which some persons will consume in a day is prodigious. Seven English pints is quite a common allowance; and not unfrequently twice that quantity is taken without any perceptible effect. Many of the coal-heavers on the Thames think nothing of drinking daily two gallons of porter, especially in the summer-season, when they labour under profuse perspirations.

"Both wine and malt-liquors have a greater tendency to swell the body than ardent spirits. They form blood with greater rapidity, and are altogether more nourishing. The most dreadful effects, upon the whole, are brought on by spirits, but drunkenness from malt-liquors is the most speedily fatal. The former break down the body by degrees; the latter operate by some instantaneous apoplexy or rapid inflammation."

After this description, of the accuracy of which we believe there can be no doubt, our readers may be surprised at the gentleness with which many well-meaning persons treat the vice of intoxication by beer, when compared with their extreme indignation against the slightest approach to ardent spirits. It appears to us that this indignation is in some degree a mistake. The temperance societies of the United States naturally directed their laudable efforts to repress intemperance against spirits, because spirits are the common drink of their country. It seems to us that any resolution to avoid spirits, which would leave a man free to an immoderate use of beer, is a gross delusion. Every one knows that there is much mischief, if not a great deal more, in the tippling of the beer-shops in the country, than in the hasty excitement of the gin-shop of the town. In truth, the efforts of all ought to be directed to the eradication of intemperance, whether the vehicle for intoxication be spirits, beer, or wine. It is not decorous *now* for gentlemen to be intoxicated. Twenty years ago drunkenness was a "gentlemanly vice." There is a print by Hogarth, called 'A Midnight Modern Conversation,' in which a company, evidently of the rank of gentlemen, are exhibited in the most beastly state of drunkenness. There is nothing but their dress to distinguish these members of a London club from the wretched creatures of 'Gin Lane.' Such scenes long survived the time of Hogarth; they have now nearly vanished amongst the higher and middle classes. The cure of gin-drunkenness, and of beer-drunkenness, must be the same as that of wine-drunkenness;—the cultivation of a higher standard of taste and morals. We trust the day is not far distant when 'Gin Lane' and 'Beer Street' will record a *past* state of society as much as a 'Midnight Modern Conversation.'

As an antidote against *all* intemperance, whether of the rich or the poor, we print an impressive paper, descriptive indeed of an imaginary case, but possessing all the force of truth. It is understood to be from the pen of the late Mr. Lamb:—

Confessions of a Drunkard.

"Could the youth to whom the flavour of his first wine is delicious as the opening scenes of life, or the entering upon some newly-discovered paradise, look into my desolation, and be made to understand what a dreary thing it is when a man shall feel himself going down a precipice with open eyes and a passive will—to see his destruction, and have no power to stop it, and yet to feel it all the way emanating from himself; to perceive all goodness emptied out of him, and yet not to be able to forget a time when it was otherwise; to bear about the piteous spectacle of his own self-ruins: could he see my fevered eye,—feverish with last night's drinking, and feverishly looking for this night's repetition of the folly; could he feel the body of the death out of which I cry hourly with feebler and feebler outcry to be delivered,—it were enough to make him dash the sparkling beverage to the earth in all the pride of its mantling temptation.

O if a wish could transport me back to those days of youth when a draught from the next clear spring could slake any heats which summer suns and youthful exercise had power to stir up in the blood, how gladly would I return to thee, pure element, the drink of children, and of child-like holy hermits! In my dreams, I can sometimes fancy thy cool refreshment purling over my burning tongue. But my waking stomach rejects it. That which refreshes innocence only makes me sick and faint.

But is there no middle way betwixt total abstinence and the excess which kills you? For your sake, reader, and that you may never attain to my experience, with pain I must utter the dreadful truth, that there is none, none that I can find. In my stage of habit (I speak not of habits less confirmed; for some of them I believe the advice to be most prudential), in the stage to which I have reached, to stop short of that measure which is sufficient to draw on torpor and sleep,—the benumbing apoplectic sleep of the drunkard,—is to have taken none at all. The pain of the self-denial is all one. And what that is I had rather the reader should believe on my credit than know from his own trial. He will come to know it whenever he shall arrive at that state in which, paradoxical as it may appear, *reason shall only visit him through intoxication:* for it is a fearful truth, that the intellectual faculties, by repeated acts of intemperance, may be driven from their orderly sphere of action, their clear day-light ministeries, until they shall be brought at last to depend for the faint manifestation of their departing energies upon the returning periods of the fatal madness to which they owe their devastation. The drinking man is never less himself than during his sober intervals. Evil is so far his good.

Behold me, then, in the robust period of life, reduced to imbecility and decay. Hear me count my gains, and the profits which I have derived from the midnight cup.

Twelve years ago I was possessed of a healthy frame of mind and body. I was never strong, but I think my constitution, for a weak one, was as happily exempt from the tendency to any malady as it was possible to be. I scarce knew what it was to ail anything. Now, except when I am losing myself in a sea of drink, I am never free from those uneasy sensations in head and stomach which are so much worse to bear than any definite pains and aches.

At that time I was seldom in bed after six in the morning, summer and winter. I awoke refreshed, and seldom without some merry thoughts in my head, or some piece of a song to welcome the new-born day. Now, the first feeling which besets me, after stretching out the hours of recumbence to their last possible extent, is a forecast of the wearisome day that lies before me, with a secret wish that I could have lain on still or never awaked.

Life itself, my waking life, has much of the confusion, the trouble, and obscure perplexity of an ill dream. In the day-time I stumble upon dark mountains.

Business, which, though never particularly adapted to my nature, yet as something of necessity to be gone through, and therefore best undertaken with cheerfulness, I used to enter upon with some degree of alacrity, now wearies, affrights, perplexes me. I fancy all sorts of discouragements, and am ready to give up an occupation which gives me bread from a harassing conceit of incapacity. The slightest commission given me by a friend, or any small duty which I have to perform for myself, as giving orders to a tradesman, &c., haunts me as a labour impossible to be got through. So much the springs of action are broken.

The same cowardice attends me in all my intercourse

with mankind. I dare not promise that a friend's honour, or his cause, would be safe in my keeping if I were put to the expense of any manly resolution in defending it. So much the springs of moral action are deadened within me.

My favourite occupations in times past now cease to entertain. I can do nothing readily. Application, for ever so short a time, kills me. This poor abstract of my condition was penned at long intervals, with scarcely any attempt at connexion of thought, which is now difficult to me.

The noble passages which formerly delighted me in history, or poetic fiction, now only draw a few weak tears allied to dotage. My broken and dispirited nature seems to sink before anything great and admirable.

I perpetually catch myself in tears, for any cause or none. It is inexpressible how much this infirmity adds to sense of shame, and a general feeling of deterioration.

These are some of the instances concerning which I may say with truth that it was not always so with me.

Shall I lift up the veil of my weakness any further? or is this disclosure sufficient?"



[Beer Street.]

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WARKWORTH HERMITAGE.



[Warkworth Hermitage.]

"A little lowly hermitage it was
Downe in a dale, hard by a forest's side,
Far from resort of people that did pas
In travell to and froe: a litle wyde
There was an holy chapell edifyde,
Wherein the hermite dewly wont to say
His holy things each morne and eventyde:
Thereby a christall streame did gently play
Which from a sacred fountaine welled forth alway."

Spenser's 'Faery Queene.' Book I., Canto 1.

Warkworth Hermitage, situated upon the north bank of the Coquet, about half a mile west of the celebrated castle of the same name, the baronial residence of the great Earls of Northumberland, was founded at an uncertain date, for a single hermit. The provision for him was of the most liberal kind, as may be seen from the tenor of the patent by which the sixth Earl of Northumberland granted the hermitage to the last hermit, in the reign of Henry VIII. This curious document is given at length in the appendix to Dr. Percy's ballad, 'The Hermit of Warkworth.' The following is an extract:—

"I have geven and graunted, and by these presentes do gyve and graunt unto the said Sir George Lancastre, myn armytage belded in a rocke of stone within my parke of Warkworthe, in the county of Northumbreland, in the honour of the blessed Trynete. With a yerly stipende of twenty merks by yer, from the feest of Seint Michell Sharehaungell, last past affore the date herof, yerly duryng the naturall lyve of the said Sir George. And also I, the sain Erle, have geven and graunted to the said Sir George Lancastre the occupation of one little gresground of myn nygh adjoining the said armytage, onely to his owne use and profit, wynter and somer durynge the said terme; the garden and orteyarde belonging to the said armytage; the gate* and pasture of twelf kye and a bull, with their calves suking; and two horses going and beying within my said parke wynter and somer; one draught of fysshe every Sondaire in the yere to be drawn for nenst [opposite] the said armytage; and twenty lods of fyrewode to be taken of my wodds called Shilbotell Wode, duryng the said term."

By this it would seem that the hermit of Warkworth was not at all stinted in the good things of this life.

The dissolution of monastic establishments took place in the lifetime of this Sir George Lancaster, but as the hermitage of Warkworth was never endowed in mortmain, its munificent allowance reverted to the Percy family; the hermit himself, however, was not permitted to suffer; for although the salary was reduced to ten marks, compensations were allowed him for the rest, and his other rights, under the above grant, were not disturbed.

Persons who now visit the hermitage cross the river in a boat. A narrow walk on the brink of the river then leads to the door of the hermitage: this walk is confined by perpendicular walls on either hand to a width of four feet. From the summit of the cliffs is a grove of oaks, and at their base issues a spring of the purest water, from which the hermitage was formerly supplied. The steps, vestibule, and chief apartments of the hermitage are hewn out of a free-stone rock, the outside face of which is about twenty feet high, embowered with stately trees which grow on the top of the precipice and from the fissures of the cliffs. One lower and outward apartment is of masonry, built up against the side of the rock; it is about eighteen feet square, and appears to have been the kitchen or principal dwelling, as it has a range or fire-place six feet wide. On the south side of this apartment, opposite the entrance, is a door-way leading to an outward seat formed in the rock, and opening upon the walk on the river's brink. On this side of the room are two windows which bear the marks of iron-grating, and also a closet. From holes cut in the rock, it seems as if timbers had been fixed in it for the flooring of an upper chamber. This structure is built of ashler-work, and seems to be of much more modern date than the cells formed in the rock.

Passing from this outward building by the entrance, the visiter ascends, by seventeen steps, to a little vestibule, above the inner door-way of which appear some letters, being the remains of a Scripture text, in Latin, which our own version gives as—"My tears have been my food day and night." This leads to the chapel, which, with its sacristy, forms the most interesting portion of the remains. The chapel is about eighteen feet long, and seven and-a-half feet in height and breadth. It is built with great neatness, in columns, groins, and arches, in the old Gothic style. It is lighted by a window in two compartments, in the cell of which lies a figure of a lady, whose feet rest against an animal, (most likely a dog as an emblem of fidelity) as is common in similar monuments. By length of time, and the weather beating through the window, the monument has been much injured. In a niche cut in the wall at the foot of this monument is the figure of a hermit, or, as Percy says, "a warrier," on his knees, resting his head on his right hand, and his left hand placed in his bosom. The altar is the breadth of the chapel, and the ascent to it is by two steps. From this chapel there is an entrance to the sacristy by a neat door-case, over which is sculptured a shield, with the representation of the crucifixion, and of several instruments of torture. At its east end this apartment has an altar like that in the chapel. It is lighted from the chapel by a window divided by two mullions, the summit of each division being ornamented with work formed of sections of circles,—as seen in cathedrals of the tenth century. This apartment is nine paces in length by five feet wide. A small closet is cut in its side wall to the north, from which a door-way leads to an open gallery which has a prospect up the river; but, by the falling in of the rock above, this part has been much damaged.

From these cells, a winding stair, cut in the rock, leads to its summit, where the hermit is supposed to have had a house and garden, although it appears evident that the original hermitage consisted of no more than the apartments hewn in the rock.

The figures which we have described as in the chapel suggested to Dr. Percy the outlines of his 'Hermit of Warkworth,' published in 1771, from which we extract the following description of the hermitage.

"And now, attended by their host,
The hermitage they viewed;
Deep hewn within a craggy cliff,
And overhung with wood.

And near a flight of shapeless steps,
All cut with nicest skill;
And piercing thro' a stony arch,
Ran winding up the hill.

There, deck'd with many a flower and herb,
His little garden stands;
With fruitful trees in shady rows,
All planted by his hands.

Then scoop'd within the solid rock,
The sacred vault he shows;
The chief a chapel neatly arched,
On branching columns rose.

Each proper ornament was there
That could a chapel grace;
The lattice for confession fram'd,
And holy-water vase.

O'er either door a sacred text
Invites to godly fear,
And in a little 'scutcheon hung
The cross, and crown, and spear.

* Going, from the verb "to gae."

Up to the altar's ample breadth
Two easy steps ascend,
And near a glimmering solemn light
Two well-wrought windows lend.

Beside the altar rose a tomb
All in the living stone,
On which a young and beauteous maid
In goodly sculpture shone.

A kneeling angel fairly carved
Lean'd hov'ring o'er her breast;
A weeping warrior at her feet,
And near to these her crest."

The allusion in the last stanza is to some much defaced sculpture on the pillar which divides the window, and which has been supposed, apparently without sufficient evidence, to have originally represented a hovering cherub.

Our wood-cut is from an original drawing made in 1834.

ORIGIN OF THE GLASGOW MANUFACTURES.

On this subject a correspondent sends us the following interesting information, which he has taken from Ure's 'History of Rutherglen and East Kilbride.'

Towards the middle of the last century, two young men of the name of Wilson, the one from Flakefield*, and the other from its neighbourhood, repaired to the city of Glasgow, and there commenced business. The sameness of name having, however, occasioned frequent mistakes in the way of trade, the one was distinguished from the other by the *cognomen* "Flakefield,"—the place of his birth. His real surname soon became obsolete; and the name of Flakefield, in place of Wilson, descended to his posterity.

To this man's son the now flourishing city of Glasgow is in a great measure indebted for her rise to opulence and grandeur. Flakefield put one of his sons to the weaving-trade. The youth, after learning the business, enlisted, about the year 1671, in the regiment of the Cameronians, but was afterwards draughted into the Scottish Guards. During the course of the war, Flakefield's regiment being ordered to the Continent, he there procured a blue-and-white-chequered handkerchief which had been woven in Germany, and which greatly struck his fancy. He thought that, were he fortunate enough to return to his native city, he would attempt a manufacture of the same kind. With the greatest care the soldier-weaver preserved a fragment of the cloth; and, being disbanded in the year 1700, he returned to Glasgow with the fixed determination of accomplishing his praiseworthy design.

A few spindles of yarn,—the white ill-bleached, the blue not very dark—were all that poor William Flakefield could collect at the time, or, indeed, that could then be found in Glasgow. His first web was composed of about two dozen handkerchiefs. When the half was woven, he cut out the cloth and took it to the merchants, who at that time traded in salmon, Scotch plaiding, hollands, and other thick linen. They were delighted with the novelty of the blue and white stripes, but especially with the delicate texture of the cloth, which was *thin set* in comparison with the hollands. The adventurer asked no more for his web than the cost-price of the materials, and the ordinary wages for his work. This was willingly paid him; and he went home rejoicing that his attempt had not proved unsuccessful. This dozen of handkerchiefs—the first of the kind ever woven in Britain—were disposed of in a few hours. Fresh demands were daily made on the gratified weaver; and the remaining half of his little web was bespoken before it was woven. More yarn was, as speedily as possible, procured, and several looms were immediately filled with handkerchiefs of the same pattern. The demands increased in proportion to the quantity of cloth that was manufactured. Some English merchants, who resorted to Glasgow for thick linens, were highly pleased with the new manufacture, and carried a few of the handkerchiefs to England for a trial. They met with universal approbation: the number of looms continued to increase; so that, in a few years, Glasgow became famous for that branch of the linen-trade. A variety of patterns and colours were soon introduced. The weavers in Paisley and the neighbouring towns engaged in the business; and the trade was at length carried on to a great extent.

* A small place in the parish of East Kilbride.

Our readers will see from the above from what a small beginning this very useful and lucrative branch of business took its rise, and which was also the means of introducing others still more extensive. But though Flakefield laid the first foundation of the prosperity of Glasgow, it appears that, like too many of the benefactors of mankind, he reaped neither emolument from his labour nor gratitude from his townsmen;—since we find that, in old age, he occupied the humble station of *town-drummer* to the city which his enterprise has raised to the rank of one of the first manufacturing and commercial cities of the British Empire.

Indian Doctor's Bill.—A curious trial came on in April, last year, in the Court of Requests, Calcutta, for a native doctor's bill, charged at 314 rupees. There were fourteen items, consisting mostly of gold leaf, pearls, and other precious things, dissolved, or said to be dissolved, and made into pills. One of them professed to consist of the navels of goats and monkeys, brought from the Persian Gulf, and mingled with musk. One hundred rupees had been paid in advance, and the commissioner thinking it enough, the case was dismissed. This trial exhibits a fair picture of what sometimes occurred in Europe before the healing art assumed the character of a science.

Editorial Announcement.—The 'Hobart Town Courier' of September 26th, 1834, contains the following intimation to its subscribers, which will be regarded in this country as somewhat curious and characteristic:—"We take the liberty of reminding our friends and subscribers that the present number concludes the quarter, and to entreat, especially from those who are already in arrear, the favour of an early settlement. Those of our friends who might find it convenient to oblige us with a small quantity of wool in lieu of money, as payment of our little accounts, are respectfully informed, that the same will be thankfully received at the market price, either at the Printing-office, Collins' Street, or in Launceston, at the stores of Mr. Main, our agent at that place."

Shagreen.—Shagreen is supposed by some persons, from its scaly appearance, to be the skin of some fish. It is, however, a species of leather, or rather skin, and the process by which it is manufactured is very curious. Astrakhan is the seat of the manufacture. The material is the strong skin that covers the crupper of the ass or the horse. The skin is first soaked in water for some days till the hair is loose enough to be scraped off; after which it is cut and scraped till it becomes scarcely thicker than a hog's bladder. It is then, while soft and wet, fastened to a frame, the flesh side undermost, and the upper or grain side is strewed over with the hard round seeds of a species of *chenopodium*, a felt is then laid over it, and the seeds are trodden deeply into the soft yielding skin. The frames are then placed in the shade till the skin becomes dry, and the seeds may then be shaken out of their holes. Next the skins are rasped till the sides of the holes are worn down almost to a level with their bottoms. It is then soaked, first in water, and afterwards in an alkaline lye; and as it becomes soft, those parts of the skin which were merely depressed by the seeds being forced down upon them, rise above the parts which had been rasped, presenting a granular pustular surface. The skin is then stained superficially of a green colour by copper filings and sal ammoniac, and is afterwards allowed to dry. Lastly, the grains or warts are rubbed down to a level with the rest of the surface, which thus presents the appearance of white dots on a green ground; and when polished is very beautiful as well as durable.—*Transactions of the Society of Arts.*

WILLIAM GILPIN, HIS CHURCH AND SCHOOL.



[Boldre Church, Hampshire.]

The village of Boldre, on the borders of the New Forest, in Hampshire, contains nothing in itself peculiarly deserving of notice; but the traveller who visits the pleasant town of Lymington, from which Boldre is about two miles distant, may be induced to stroll towards the village-church on learning that it was for above twenty years the scene of the pastoral labours of the late Rev. William Gilpin, a man who deserves to be held in remembrance by every person of taste, and especially by every lover of the picturesque, as an excellent critic in art, and an artist himself of no inconsiderable pretensions.

Mr. Gilpin was born in 1724 at Carlisle. Sawrey Gilpin, R.A., an eminent animal painter, was a younger brother of Mr. Gilpin. Mr. Gilpin being destined for the church, was educated at Queen's College, Oxford, and took the degree of M.A. in 1748. He kept a grammar-school at Cheam, in Surrey, many years after entering into orders; and was at length appointed to a prebend in the cathedral of Salisbury; shortly afterwards, being presented to the living of Boldre by his former pupil, William Mitford, Esq., author of the 'History of Greece,' he relinquished his school in favour of his youngest son, and removed to the parsonage, at Vicar's Hill, in 1788.

In 1753 Mr. Gilpin published a life of his venerable ancestor, Barnard Gilpin, which was followed by lives of Latimer (1755), Wickliffe, Huss, Jerome of Prague, Zisca (1765), and Archbishop Cranmer (1784). To these works were subsequently added others of a miscellaneous character, exhibiting both erudition and a great share of Christian benevolence, and which in their day deservedly enjoyed a considerable degree of popularity. Mr. Gilpin is, however, more generally known at the present time as an artist, and by his works on the principles of art. In the spirited and faithful execution of his compositions, he illustrated the rules which he so ably laid down for the guidance of others. His publications in this department, are 'Observations on Picturesque Beauty,' 8vo.; 'A Tour of the Lakes,' 8vo. 2 vols.; 'Remarks on Forest Scenery,' 8vo. 2 vols. (a new edition of this work, edited by Sir Thomas Dick Lauder, has recently been published in Edinburgh); 'Essay on Prints,' 8vo.; 'Observations on the River Wye,' 8vo.; 'Remarks on the Western parts of England,' 8vo.

It is peculiarly gratifying to view the character of Mr. Gilpin as a parish-priest. His varied attainments were made subservient to plans which more particularly contemplated the improvement of his poorer parishioners. He applied the profits which he derived from his pen and pencil to found two parish-schools, a view of which are given in the accompanying sketch. The school-houses adjoin each other, and are situated in an angle formed by the junction of two roads, one of which leads to Pilley, and thence to Boldre Church, and the other



[The Rev. William Gilpin's School, at Boldre.]

to Vicar's Hill and Lymington. In these schools twenty boys and as many girls, "taken as far as can be out of the day-labouring part of the parish" of Boldre, are clothed and educated according to the directions of the founder; the boys being taught "reading, writing, and the first four rules of arithmetic;" and the girls "to read, knit or spin, sew, or mend their own clothes."

Mr. Gilpin gives the following history of the foundation of these schools:—"As this little institution," he says, "appeared so far to answer its intention, I was desirous of making it permanent; but not choosing to leave it as a burden to my children, I projected a scheme for raising a fund to support it after my death. I brought to sale, therefore, on the 6th of May, 1802, several drawings and little picturesque MSS. which had been the occupation of my leisure for two or three years. The public was pleased to encourage the sale, and it raised about 1200*l*., which being funded in the 3 per cents., added to another little stock in the same fund, produced about 84*l*. a year. It appears," continues Mr. Gilpin, in the document from which we quote, "that with the occasional expenses of books, paper, ink, quills, and other little necessaries, the fund is not quite sufficient for the institution of the Boldre school. I had a wish also to give something to Brokenhurst, which is an appendant parish on Boldre, where they have a little school already established, but on a very narrow foundation. Under these circumstances, I have directed a sale to take place after my death of a few drawings which at my leisure I have been making. This is the last effort of my eyes, and I am willing to hope they may still be of some little use." The "few drawings," so modestly alluded to, consisted chiefly of books containing from twenty to sixty drawings. They were sold shortly after his death by Christie, and produced about 1500*l*. One book, which is now in the possession of a gentleman of Boldre, sold for eighty guineas.

Beloved and reverenced by all who knew him, but more especially by his humbler parishioners, Mr. Gilpin lived to the venerable age of eighty. As a parish-priest he was unremitting in his attention to those committed to his charge. So scrupulously exact was he in the performance of his duties, that either himself or his curate visited every family who were attendants at the churches of Boldre and Brokenhurst, at least once in every week. Hence he had but little leisure for less important engagements; and we are assured that a great portion of his drawings were executed by candle-light. We are told that he "reproved the vicious with authority, but mildness; encouraged the worthy with a judicious generosity; instructed the ignorant with the most patient condescension; visited and relieved the sick; comforted the unhappy; and afforded advice and assistance to all who stood in need of them." He died April 4th, 1804, and was buried in Boldre churchyard, having chosen, as Mr. Strutt tells us, "for his resting-place this sweet sequestered spot, amidst the scenes he so much loved, and has so well described."

A plain tomb marks the grave, in which were deposited the remains of Mr. Gilpin and his wife (who died July 14th, 1807, at the age of eighty-two), on which is inscribed the following simple memorial written by himself:—"In a quiet mansion, beneath this stone, secured from the *afflictions*, and still more dangerous *enjoyments* of life, lie the remains of William Gilpin, some time vicar of this parish; together with the remains of Margaret his wife. After living above fifty years in happy union they hope to be raised in God's due time (through the atonement of a blessed Redeemer for their repented transgressions), to a state of joyful immortality. Here it will be a new joy to see several of their good neighbours, who now lie scattered in these sacred precincts around them."

The view from Boldre churchyard is exceedingly interesting; that towards the north extending over an area of thirty or forty square miles of forest scenery, of

the richest and most diversified character; while on the opposite side appear the white cliffs of the Isle of Wight. The intermediate woods gently incline towards the adjacent stream, which, widening as it proceeds, flows into the sea at Lymington Bridge. The church itself is an ancient and primitive-looking structure, and crowns the summit of a thickly-wooded eminence.

MINERAL KINGDOM.—Section XXXIV.

Lead—(*concluded*).

Method of obtaining the Metal from the Ore.—The ore, after having been properly broken, and separated as much as possible from the vein-stones, is roasted in a furnace, with a small quantity of coal, in order to expel the sulphur, and any other volatile matter which it may contain. After undergoing this process, it is taken to a blast furnace, of a peculiar construction, called an "ore-hearth," where, by a powerful heat, the ore is melted, and the metal separated from the dross, or slag, which swims on the surface; the mass being frequently stirred, to facilitate the separation, for a period of from twelve to fifteen hours. There are various manipulations during the process, and these, together with the supply of fuel and of lime (which is added to facilitate the reduction), are modified according to the nature of the ore, and require much skill and tact on the part of the workman. The slags, still containing a portion of lead, are subjected to another process of smelting with coke in another furnace. In all these operations a considerable quantity of the ore is volatilized, and condenses in the chimneys of the furnaces: this, which is called "smelters' fume," is collected from time to time, and the lead is extracted from it.

The quantity of silver contained in the greater part of the lead-ore raised in the north of England is sufficient to render its extraction profitable. The separation of lead and silver is effected by the different degrees of attraction which the two metals have for oxygen, the silver remaining unaltered, when exposed to the air of the atmosphere at a high temperature; whereas lead, under the same circumstances, becomes rapidly converted to a protoxide:—that is, becomes a new substance, composed of lead and a minimum quantity of oxygen, and which is commonly known by the name of "litharge." The lead to be refined is placed in a furnace so constructed as to admit of the ready separation of the litharge as it is formed; it is melted and farther heated till it becomes of a bright red, and then the blast of air is made to pass over it. This not only supplies the oxygen, but is sufficiently strong to sweep away the oxide as it is formed, by which means a fresh surface of the melted lead is exposed: more lead is supplied, from time to time, as the operation proceeds, and, at the end of the process, a cake of silver is found at the bottom of the furnace. The lead is recovered from the litharge by a very simple process, which consists in mixing it with coal, and exposing it to a strong heat: the carbon of the coal has a stronger attraction for oxygen than lead has, and therefore separates it from the litharge, leaving the pure metal, which is run out into moulds to form the pigs, or bars, in which shape it is brought to market. This process of extracting the silver from the lead was not introduced in the north of England mines till the reign of William and Mary.

The working of lead-mines in Great Britain dates from a remote period. The mines of Derbyshire, it is supposed, were wrought in the time of the Romans; the proofs of which are derived from blocks or bars of lead which have been found with Roman inscriptions upon them. A bar of this kind was discovered on Cromford Moor in the year 1777, and the interpretation of the inscription which has been given is the following:—"The Sixth Legion inscribes this in memory of the Emperor Adrian." Another bar was met with near Matlock in 1783, the inscription of which has been translated as follows:—"The property of Lucius Aruconius Verecundus, merchant of London." The Saxons and Danes, it is supposed, were also engaged in working the mines of Derbyshire, from the designation of the Odin Mine, at Castleton, which it is conjectured was so called from the name of the northern deity.

Uses of Lead.—Besides the various purposes to which it is applied in its pure state, lead is employed in many different ways in combination with other substances. The sulphuret of lead—that is, the common ore, galena—is made use of, without any previous preparation, as a glazing for coarse pottery. The protoxide, or litharge, enters largely into the composition of flint-glass, which it renders more fusible, transparent, and uniform. Combined with another proportion of oxygen, it forms *Red Lead*, which is also used in the manufacture of flint-glass, and as a paint. *White Lead*, which is so extensively used as a paint, is a combination of the metal with oxygen and carbonic acid. *Sugar of Lead*, which is used very largely in several manufactures, particularly in calico printing, and also in medicine as an external application, is a compound of lead and acetous acid, or vinegar. It is so called from having a remarkably sweet taste: it is well known, as well as most of the combinations of lead, to be a deadly poison.

Of the 45,000 tons of lead which may be estimated as the average produce of the mines of the United Kingdom, about one-third is exported. In the year ending January 5, 1833, the exports were as follows:—

	Tons
In Pigs, and rolled, and shot	12,181
Litharge	433
White Lead	652
Red Lead	396
Lead Ore	236
Total	13,898

The countries to which that quantity was exported were,—

	Tons.
United States of America	4896
East Indies and China	2980
Russia and Sweden	1951
Germany	634
Brazil	526
West Indies	514
British North America	480
The Netherlands	156
Cape of Good Hope and Africa	435
New South Wales	223
Italy and the Levant	226
Spain and Portugal	226
Other places in lesser quantities	351
Total	13,898

No species of property, perhaps, has undergone so great a deterioration in so short a time as that of lead-mines. In the year 1809, the market-price of lead in bars was 31*l.* 3*s.* per ton; and, according to the tables given by Mr. Macculloch in his 'Commercial Dictionary,' the average price for the ten years ending 1810 was 27*l.* 14*s.* 6*d.* It rose to 31*l.* in the year 1814, when speculations at the close of the war raised the value of many of our native products; but the average of the ten years ending 1820 was 23*l.* 6*s.* 6*d.* A sudden fall took place five years afterwards, for in 1825 the price was 25*l.* 6*s.*, and the following year it fell to 19*l.*; and it kept falling till 1832, when it was down to 13*l.* 10*s.* From that extreme depression it has partially recovered, the present market price being about 18*l.* per ton. This extraordinary fall was occasioned by a sudden increase of supply from the lead-mines of Spain. These mines are situated in Andalusia, partly in a range of mountains to the north of Jaen, near Linares, but

chiefly in another range which lies between Jaen and the city of Granada, and on the southern slope of them. We know little about these mines beyond their locality, for the geology of Spain is as yet very imperfectly understood. Bowles, who wrote in the year 1776, describes the mines to the north of Jaen, to have been worked by the Moors, and says that the mountains are pierced by shafts in all directions; that there are two great veins which pass through a granitic rock, which vary considerably in richness; and that at one time one of the mines produced in a year more than all the lead-mines of Saxony together had done in twelve years. But it is the mines in the mountains of Granada from which the recent great supply has been obtained. The ore lies near the surface, and is therefore obtained without much exercise of skill, or expense of labour and machinery. Mr. Witham says, that "the metalliferous limestone of the south of Spain is so rich in galena as to furnish, even in the present imperfect state of mining in that country, about 20,000 tons of lead annually." France has some lead-mines in Britany, Languedoc, Alsace, and other parts of her territory, but imports the greater part of her consumption, and chiefly from Spain; England having sent only 70 tons to France out of the 13,898 exported in 1832. There are many lead-mines in Saxony, Bohemia, Silesia, and other parts of Germany. Although the exports to the United States from this country are so considerable, they are not without ores of that metal in their own country. The mines are situated in Pennsylvania, Massachusets, and on the Fever and Missouri rivers in the Western States; the richest being in the latter country. The total produce in 1829 exceeded 6000 tons.

We have now treated of Iron, Copper, Tin, and Lead, as the metals most largely consumed in the ordinary wants of domestic life, and as the principal metallic productions of Great Britain: and it is not a little remarkable that a territory so small as England should so abound in them as not only to supply her own wants, in the full extension of her manufacturing industry, but that she should also be the chief mart to which other nations resort for these indispensable commodities. We shall next proceed to treat of the precious metals; those productions of the Mineral Kingdom which have had so wonderful an influence on the fate of nations and on the progress of civilization throughout the world.

ROBERT SOUTHWELL.

The days are happily come when persons of all parties and opinions join in lamenting the crimes and excesses of that time when men whose sentiments were different on religious topics thought it just—thought it, perhaps, a duty—to coerce the consciences of their fellow-men even to the death. In the early history of the Reformation, it seems that all parties equally admitted, as a principle, that it was just to coerce and punish capitally persons holding an erroneous belief; and we accordingly find that the Protestants, no less than the Catholics, kindled the brands and administered the tortures of religious persecution, when the power fell into their hands. It is far more in sorrow than in anger that we would speak of these things. We have no right to be angry with men who act on what they believe to be a principle of duty; but we have a right bitterly to lament that there should ever have been a time when men thought it a duty to visit with criminal punishments persons who had been led by education or circumstances to entertain a class of opinions different from their own, and to turn a deaf ear to the voice of justice and human pity, which doubtless whispered the truth to their own hearts.

Among the many victims of this spirit, we find the name of Robert Southwell, an English writer of the sixteenth century, of very considerable merit, but with whose name, in that character, the large majority of our readers will now perhaps become acquainted for the first time.

Old Fuller's notice of Southwell, under the head of "Suffolk," is brief and characteristic:—"Robert Southwell was born in this county, as Pitseus affirmeth, who although often mistaken in his locality, may be believed herein, as professing himself familiarly acquainted with him at Rome. But the matter is not much where he was born; seeing that though cried up by men of his own profession for his numerous books in verse and prose, he was reputed a dangerous enemy by the State, for which he was imprisoned and executed, March the 3rd, 1595*."

A brief notice of Southwell and his works appeared in the 'Gentleman's Magazine' for 1798; and this account appears to have been the fullest with which Mr. Ellis, who gives some specimens of Southwell's poetry in his 'Specimens of the Early English Poets,' was acquainted. A more complete and zealous attempt was made in the 'Retrospective Review' for 1821 to do justice to his memory. The writer in that publication gives some interesting particulars concerning Southwell, from Challoner's 'Memoirs of Missionary Priests;' and it is from this account that we have prepared the following notice of his life.

He was born about the year 1562, of a respectable Catholic family, at St. Faith's, in Norfolk, and was at an early age sent to the English College at Douay, for education. From Douay he went to Rome, and at the age of sixteen was received into the order of the Society of Jesus. Having finished his novitiate, and gone through his course of philosophy and divinity with great credit, he was made Prefect of the Studies of the English College at Rome. At this time there was an Act in force against Catholic priests, and especially Jesuits, coming to England from foreign parts; yet when he was appointed a Missionary priest to his own country, he felt the performance of his religious duties superior to all other considerations, and did not hesitate to proceed to his destination. In acting thus, although his motives claim our respect, it must be allowed that he made himself a transgressor against the law, and, in the strict letter of that law, the authorities were justified in the measures they afterwards adopted against him. We need not, however, at this day, spend many words in declaring the injustice and cruelty of a law, the effect of which was to exclude a large proportion of the population from the assistance and services of the ministers of their religion. Urged by the spiritual wants of the English Catholics, Southwell came to England, having, as he said, travelled far, and brought home a freight of spiritual substance to enrich his friends, and medicinable precepts against their ghostly maladies. He did not, however, take up his abode with his relations; but, through anxiety for their safety, "lived like a foreigner, finding among strangers that which, in his nearest blood, he presumed not to seek." His anxiety for the spiritual welfare of his father led him to address to him a most eloquent and energetic letter of exhortation and advice. This letter, from its vigour of thought and strength of language, is quite worthy of the place which is sometimes mistakenly given it, among the works of Sir Walter Raleigh.

Father Southwell continued in England, performing the duties of his function until the year 1592, when he was apprehended in a gentleman's house in the county of Middlesex, and committed to a dungeon in the Tower, so noisome and filthy, that when he was brought out for examination his clothes were covered with vermin.

* 'Worthies,' Vol. II., p. 344, Edition, 1811.

Upon this his father presented a petition to Queen Elizabeth, begging, that if his son had done anything for which by the laws he deserved to die, he might suffer death; if not, as he was a gentleman, he hoped her Majesty would be pleased to order that he might be treated like a gentleman. The Queen was pleased to listen to the old man's prayer, and ordered that Southwell should have a better lodging, and that his father should have permission to supply him with clothes and other necessaries, together with such books as he might desire. The only books he desired were the bible, and the works of St. Bernard. He was kept in prison three years, and what was worse for himself, and more disgraceful to the government, it is said that he was put to the rack ten several times during that period.

Wearied out with torture and solitary imprisonment, he at length applied to the lord-treasurer Cecil, entreating that he might either be brought to trial to answer for himself, or, at least, that his friends might be allowed to come and see him. To this application Cecil is said to have answered, "that if he was in so much haste to be hanged, he should quickly have his desire." Shortly after this he was removed from the Tower to Newgate, where he was put down into the dungeon called "Limbo," and there confined for three days. He was taken thence and carried to Westminster, to take his trial before Lord Chief Justice Popham and others. He was indicted for high treason under the statute already mentioned; and, a true bill being found against him, he was brought to the bar, and held up his hand according to custom. On being asked whether he was guilty or not guilty, he answered,—"I confess that I was born in England*, a subject to the Queen's Majesty; and that, by authority derived from God, I have been promoted to the sacred order of priesthood in the Roman Church." But he earnestly denied that he had ever entertained any designs against the Queen or kingdom; alleging that, in returning to his native country, he had no other intention than to administer the sacraments according to the Catholic church to such as desired them. He was then told that he must leave such matters, and at once plead "guilty" or "not guilty." Then he said he was not guilty of any treason whatever. The jury were sworn without a single challenge; for the prisoner observed that they were all equally strangers to him, and therefore charity did not allow him to except against one more than another. He was found guilty on his own confession; and being asked if he had anything to say why sentence should not be pronounced against him, he replied, "Nothing: but from my heart I forgive all who have been in any way accessory to my death." The judge having pronounced sentence according to the usual form, Southwell made a low bow, returning him thanks as for an unspeakable favour.

The next morning he was drawn through the streets, on a sledge, to Tyburn, where a great concourse of people had assembled to witness his execution. He again admitted that he was a priest of the Society of Jesus; but repeated his denial that he had ever contrived or imagined any evil against the Queen, for whom and for his country he offered up his prayers. The cart was then driven away; but the unskilful hangman had so adjusted the noose, that poor Southwell several times made the sign of the cross while he was hanging, and a considerable time elapsed before strangulation was effected.

"So perished Father Southwell, at thirty-three years of age," says the 'Retrospective Reviewer;' "and so, unhappily, have perished many of the wise and virtuous of the earth." Notwithstanding his death, however, on (it cannot be doubted) essentially religious grounds, the circumstances of this event alone afford ample evidence that the spirit of the age had already much improved, and had made some large advances towards toleration in matters of opinion. Private individuals were no longer exposed to personal molestation on charges of heresy, as both Protestants and Catholics had been alternately in preceding reigns; nor were even priests,—except such as, like Southwell, came from abroad—exposed to criminal prosecution. And, as we have seen, the statute which marked the exceptions was so framed as to bring the persons implicated to punishment, not as heretics, but as traitors. This shows that mistaken opinions began to be considered questionable grounds on which to take away a man's life. The intermediate and somewhat whimsical course was taken of declaring certain opinions held by certain persons in certain circumstances to constitute treason, and to be punished accordingly. In estimating Southwell's character and conduct, and the effect of the statute, it ought to be recollected that, the effect of other statutes, and the absence of institutions for the education of the Catholic clergy at home, rendered it almost imperative on those destined for the church to go abroad for education; and hence, as we have before intimated, the act under which Southwell suffered necessarily operated in excluding the Catholics of the country from the services of their priesthood; and that this effect was intended is apparent from the fact that, by the statute of a preceding year (25 Elizabeth, chap. 1.), a person performing the most important and common ceremony of the Catholic religion,—the mass,—became liable to a year's imprisonment and a fine of 200 marks. The fate of Southwell is thus an instructive illustration of the spirit of his age. The cause—which he doubtless supposed to be the best of causes,—to which he was devoted, and for which he died, has necessarily given a peculiar hue to this account of him. But it was our principal object to furnish our readers with some knowledge of a much neglected author; and with this view we shall, in our next Number, give an article consisting of extracts from some of his prose and poetical productions.

* The clause under which he was indicted of high treason particularly referred to English subjects.

Limerick Gloves.—It used to be the custom in the south west of Ireland to slaughter many cows while in calf. The skins of these unborn calves were of extraordinary fineness and delicacy, and from such was prepared the leather of which the celebrated Limerick gloves were made. This practice, however, is now almost discontinued, and whatever merit the Limerick gloves may still possess is owing to the skill of the manufacturer, and not to the superiority of his raw material.—*Transactions of the Society of Arts.*

Sheep.—The Society for the Prevention of Cruelty to Animals, has recently carried into practice at Whitechapel market, plans for inducing sheep readily to enter the slaughter houses. The skin of an ewe sheep is stuffed and placed on wheels in such a way as to resemble the living animal; and it is readily followed by the sheep without the necessity of employing coercion by men and dogs. As sheep also appear to have an instinctive dread of blood, and cannot readily be induced to cross it, the society have procured hurdles covered with straw to be placed over the kennels on market days. Under these little improvements the sheep are housed without difficulty, and without those scenes of uproar and brutality which have formed so serious a nuisance to the public.

** The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

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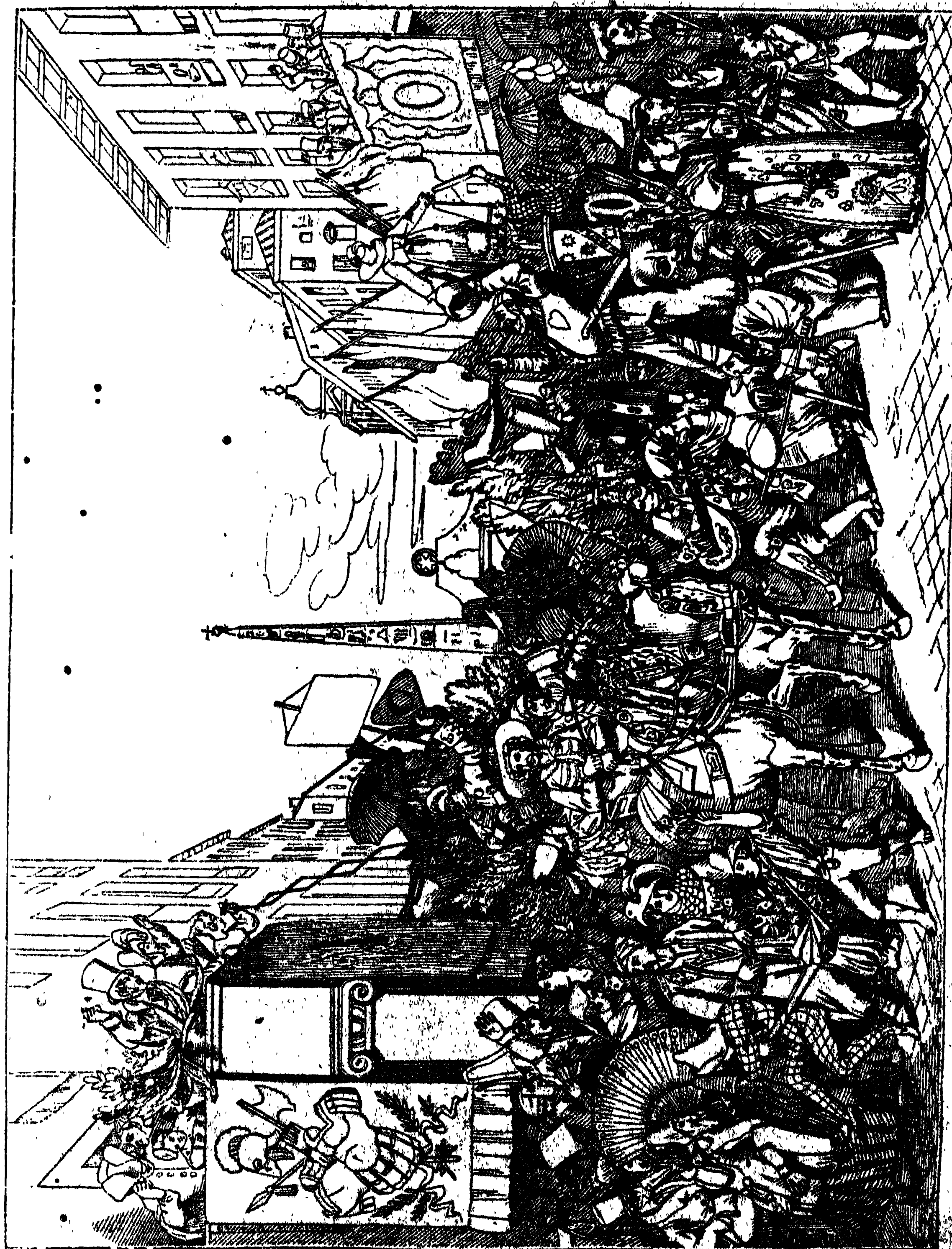
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SOME RECOLLECTIONS OF ITALIAN CARNEVALS.

[From a Correspondent.]



[Carneval at Rome.]

"This feast is named the Carneval, which, being
Interpreted, implies "farewell to flesh."
BYRON.

As I write these lines, the carneval is just expiring; for Ash Wednesday is at hand, when all its sports and frolics give way to the dullness and fasting of Lent. I will endeavour to set down some of my recollections of that gay season in Italy,—an easy task, in which I shall be assisted by the striking print before me, that happily condenses some of the most curious features of carneval out of doors. The Egyptian obelisk that rises dimly in the back-ground of the picture, and whose austere antiquity contrasts poetically with the living bustle, uproar, and enjoyment of the principal scene, shows that it is a Roman carneval that the artist represents. With the exception of the obelisk, however, and some difference in the architecture of the houses, the engraving equally illustrates the carneval of Naples, or Milan, or Venice, or any other of the large Italian cities. The crowd and confusion, the principal masquerade characters, their action and grouping, are common to all Italian carnevals on their *good days;* and, as these saturnalia are limited, at Rome, to eight days, every carneval-day there may be considered a good one. In the rest of Italy, where carneval continues from the feast of the Epiphany to the beginning of Lent, lasting five or six weeks, only the Thursdays and Sundays are observed for out-of-door displays; and these days are either not well observed at the beginning, or become languid at the close. Within doors, indeed, particularly at Naples a few years ago, carneval used to be kept up with spirit during all its long legitimate period;—there being, every night, private masquerades, or masquerades at the opera-house, balls and suppers, and all kinds of feastings and mummeries in uninterrupted succession:—and very hard work it was to go through them all! I have supported what is called a "London season" with considerably less loss of health and flesh. As soon as this riot of pleasure was over, the doctors, with their gold-headed canes, were always seen more constantly abroad, and walking much faster than usual. They had always plenty of works on their hands, being as busy *after* it as milliners and tailors, cooks and confectioners, fiddlers, and dancing-masters, had been *during* carneval. Even in a physical sense, the abstinence and quiet of Lent were indispensable: and during that sober season, when there were no feasting and dancing, and the opera, on the nights in which it was allowed to open, closed at the sober hour of eleven, without any ballet, people had time to recover themselves; although there annually occurred a few unlucky cases where the long revelling had sown the seeds of consumption, or some other incurable disease. But this was carneval in-doors. Let us return to our engraving and the streets of Rome.

In the afternoon, about three o'clock, the Corso begins gradually to fill with people,—some masked, and some in their usual holiday-dresses,—some on foot and some in hired carriages. About an hour later, the equipages of the nobility and gentry swell the crowd; and the open balconies and windows of every house in that long street are crammed full of company, who, for the most part, are not mere spectators, but actors in the ever-varying farce. The carriages and the horses are, for the most part, decked out in a very fine or a very capricious manner; and the anomalies represented in the print, where a coachman, dressed as a Spanish cavalier of the olden times, is driving an old Tabellone, or notary, with a huge wine-flask (extended towards a punch on stilts), and a Roman doctor, with "spectacles on nose," while a small-grown punch climbs up the side steps, and a full-grown punchinello, with a squeaking trumpet to his lips, and a sturdy, turbaned Moor, with a banner in his hand, act as footmen,—are such amusing contrasts as continually occur, and give the best parts of the drollery to the scene. As these carriages pass through the crowd, at a slow stately pace, those within them address or gesticulate to their friends at the balconies of the houses,—or in other carriages,—or in the street, on foot, and generally pelt them with sugar-plums. This fire is returned by the more stationary actors: and, if you look to the left of the picture, you will see a gentleman and a lady, with uplifted hands, full of sugar-plums, taking aim; and in another balcony, to the right, two gentlemen pelting with much vigour. The greatest part of the fun, after the hodge-podge of costume, lies in this sugar-plum warfare; for what with the noise of French horns and drums, cow-horns and guitars, fifes, fiddles, tambourines, and penny trumpets, and the din of thousands of voices,—the masked all squeaking in a conventional carneval falsetto, and the unmasked roaring to the top of their lungs,—no delicate passages of wit can be well heard. It is a point of gallantry, when ladies are fired at, to mix choice bon-bons and sweetmeats, wrapped up in pretty bits of paper, with nice poesies between, about "core" and "amore;" and when people do not mind the expense, they make use only of good eatable sugar-plums with the kernels of sweet almonds and caraway-seeds inside. Wherever these are most scattered there do the little boys and ragamuffins most abound; for the Italians generally have a very sweet tooth, and these poor fellows will run the most imminent risk to fill their stomachs and pockets with *confetti da signore**. I have seen hundreds of them at a time down on their knees, and even crawling among the wheels of the carriages and the horses' legs to pick up the plums, which they think it a sin and a shame to waste. Pray turn to the picture, and there, in the fore-ground, you will see a queer little specimen of the rising generation of Rome, with a night-cap on his head in the very position I mean, picking up the confetti close to the horses' hoofs. The animals seem spirited, and he may probably get a kick, but that will not hinder him from trying his luck again. I verily believe if the gorge of a *tete-de-pont* bristled with cannon, or the approach of a redoubt, were paved with sugar-plums, these urchins would march up to it. In the course of their carneval operations a broken head or rib, a crushed hand or foot, sometimes occur; but, from their wonderful dexterity, I should not think these casualties are numerous. The worst of this sugar-plum fight (and a pretty general evil it is) is, that the poorer or more parsimonious of the revellers, instead of using good plums that cost money, employ villainous hard make-believes, composed of flour and plaster-of-paris, which hurt where they hit almost like stones. I speak feelingly on this subject, for on one occasion, when embarked in the "ship of fools," I received a black-eye, to say nothing of a bleeding-nose; and, in my own party, I had more than one b[illegible] misfortune. Even the good, sweet, and *dear* confetti, when thrown with force in handfuls, or propelled through long tin tubes, as they frequently are, are not to be faced with impunity. I have frequently seen heroes who took the field with a determination to engage in the thickest of the fight, cover their faces with visors made of netted wire, and carry tin shields and bucklers on their left arms, which gave them a very warlike appearance. This warfare at Rome, however, was spiritless, compared with the carneval campaigns at Naples in my time. The Neapolitans are a magnanimous people in regard to sugar-plums; and then the population is triple that of Rome, with gentry of wealth and substance; and a secular nobility can take a more active part than would be seemly in the Abati, Monsignori, Cardinali, and the

* Gentlemanly sugar-plums.

noblesse of the Church at Rome. I should think that for one pound of confetti at Rome ten are expended at Naples. I have seen the streets at night, after a good field-day, and when all the Neapolitans had betaken themselves to the theatres or other in-door amusements, look as if it had snowed; for, spite of the activity of the young plum-gatherers, the far greater part of the good confetti, and all the flour-and-plaster ones, are trodden and pounded under the feet of the multitude, and ground by the horses' hoofs and carriage-wheels into a fine snow-white powder. The amount of the fun and spirit of the afternoon may be calculated by the extent of the confetti-dust in the evening. I remember walking down Toledo one carneval night with the old Duca di ——, who had an energetic way of expressing himself, which is far from uncommon among his countrymen. From the Studj to the Palazzo Real, or from one end of that mile-long street to the other, the ground was sugared, floured, and plastered all over. "Corpo di Bacco!" cried the Duca, "c' è stato quest' oggi un consumo di confetti magnifico! Questo mio si chiama carnevale!"—or, "By the body of Bacchus! there has been a magnificent consumption of sugar-plums to-day! Now this is what I call a carneval!"

When I was first at Naples, the greatest consumer of confetti in this way was old King Ferdinand, who has been represented by cotemporary historians as a sanguinary tyrant; but who, in fact, was only a very ignorant, very indolent, and misled king, and by nature a very hearty, jovial buffoon, and very good-natured in the main. In my mind's eye I still see the old man with his plain grey coat and pantaloons, his white hanging hair, and broad brimmed Quaker-looking hat, just as I used to see him during the carnevals of 1817 and 1818, when he went regularly to the house of the Princess Partanna (his wife by a left-handed marriage), which was conveniently situated midway in the Toledo on the left-hand side of that street as you go up from the royal palace. There he used to station himself in the spacious balcony, with a few of his favourites in his rear, and with a sackfull of sugar-plums on either side of him, the mouths of the sacks being open and the edges folded over, like sample corn-sacks in our market-places; and there he used to pelt with a profusion that delighted the hearts of all the lazaroncelli*, for his majesty's confetti were of the right sort. His own great delight was when any of his solemn-looking old courtiers, or gouty, powder-headed generals, passed in their carriages beneath, or presented themselves at balconies anywhere within reach, to pelt them until they could not see, and were obliged to run away, or hide their hands and faces between their cocked hats and their knees. And then as he made any capital hit, (and, to do his majesty justice, he was a capital shot both with fowling-piece and sugar-plums,) he would roar out,—"O' vi là, ce' l'aggio dato! l'aggio suonato!"—(Only look there! I have given it him! I have served him out!) and then how he would laugh! not all the din of Toledo on a carneval day could drown his noise. Some three or four years after, when he went to that almost equally farcical affair, the Congress of Verona, as he happened to be the oldest of those assembled there, it was the fashion to call him the "Nestor of the kings," which, considering his enormous and avowed ignorance, almost looked like quizzing him. But, though he had not the most wisdom, Ferdinand had certainly the loudest laugh and voice of any sovereign (or subject either) in Christendom. I must also mention as a fact honourable to the memory of Ferdinand, that in the sugar-plum warfare he did not shelter himself behind his prerogative and divine right as king, but as he pelted his subjects and others, so he permitted them to pelt him, and stood their fire with much good humour, though I have sometimes seen his nose, which was prominent and of extraordinary size, suffer for it. Some of the English, who throng in Naples during such seasons, occasionally carried the joke too far, pelting his majesty with all their might, and making downright horse-play of it; and once, I remember, that a party of this sort, mounted on a high car which brought them near to a level with him, fairly, or rather foully, drove the old man away from the balcony before he had finished one sack of his confetti. These high cars or vans are very striking objects in carneval processions both at Naples and Rome, as in other Italian cities. You must fancy a machine something like the late Mr. Hunt's blacking-van, but still longer in the body and higher on the wheels. There are many such in carneval countries. Upon the body of these machines it is customary to build upper works, which represent a tower or fortress with battlements and loop-holes, a ship with masts, sails, and flowing colours, or the like; and as all this is dragged slowly along by six long-tailed horses, or an equal number of oxen, the effect is very natural and imposing, particularly if you consider that towers move and ships go upon dry land. From my own experience I should feel inclined to say that a ship is the best form in which to rig-out these cars. I remember one which the city of Naples cannot yet have forgotten. To form its keel two cars were spliced together lengthwise,—and from the top of the cars to the level of the decks was, if any thing, higher than one of our ten-gun brigs;—from the line which represented water-mark there hung all round canvass painted green, which trailed to the ground, concealing cars and car-wheels, and looking for all the world like sea-water. The crew of this carneval man-of-war were all properly equipped in tarred-straw hats, blue jackets, checked shirts, loose black-silk handkerchiefs, and white-duck trousers. There was a band of music on the quarter-deck, and iced punch and other refreshments; and forwards, or in the bow of the vessel, four punchinellos ate long macaroni to music. As the vessel sailed up Toledo, the sailors shook out the colours and handed the sails to the sound of the boatswain's whistle; and then they fought the ship according to the word of command, pouring out on both sides larboard and starboard, and doing such execution with the sugar-plums as never was known, for they were on a level with the first-floor balconies and could rake them all. As the manœuvres were managed by some of our frolicsome midshipmen, they were very seamanlike, but I am sorry to add, they fired with such violence that they broke a good many panes of glass all along Toledo.

Punches and harlequins, which are seen in the picture, are the most frequent figures in all Italian carnevals; but harlequin, to be seen in perfection, ought to be seen and *heard* at Venice; where, by the way, he is no more like the frisking, dancing, jumping, non-entity of our theatres, than night is like day, or wit like posture-making; and as for punch—dear, droll Policinello! he is to be found in perfection nowhere save in his own land, Naples!—in every other part of Italy he is out of his element, and is like a foreigner speaking a foreign language he does not very well understand.

There is a celebrated farce often played in the plebeian theatre of San Carlino at Naples, (where I have laughed more than ever I did in any other theatre, and perhaps more heartily than I shall ever laugh again,) called "Le Novanta-nove Disgrazie di Policinello," or, the Ninety-nine Misfortunes of Punch. In the last carneval but one I saw at that city, a distinguished amateur punch got up an admirable procession. He

* Though the term no longer applies to any extent, they call the poor classes in Naples *Lazaroni*, or Lazarusses. Lazaroncelli is the diminutive, meaning young, or little Lazarusses.

walked along Toledo with Mrs. Policinello at his right hand, and ninety-eight young Policinellos, of both genders, and all possible sizes, followed in his wake, and "ever as he went" he smote his forehead and shouted "Ecco quà le vere novanta-nove disgrazie di Policinello" (Here are the true ninety-nine misfortunes of Punch!)—and the joints of his tail that were spread out in almost interminable length kept crying aloud, "Give us to eat, papa, for we are dying of hunger, and all true children of papa Punch!" Talking of tails reminds me that devils are very common *figuranti* in Italian carnevals, and there is no getting up a good devil without a tail, which is an appendage difficult to manage in a crowd, where people will keep tugging at it. An ingenious friend of mine, however, got over this difficulty by stuffing his tail with pins and needles arranged in *cheveaux-de-frise* fashion, which made it a tail difficult to handle.

I remember nothing particular about the Turks, Greeks, Armenians, Jews, Romans, Hindoos, and the rest, which characters are, externally, pretty much like what we see in our own masked balls. But only conceive the difference between tens (or perhaps only units) and hundreds; between a formal affair got up in a ball-room, within four walls, and a popular general out-pouring in the streets and public places, and under the pure enlivening atmosphere and broad day-light of Southern Italy, with thousands upon thousands of the neighbouring peasantry pouring into the city to enjoy the scene, and add to its variety with their different and in general picturesque or grotesque costumes. The last-named part of the great picture always struck me as the pleasantest.

During my time in Italy, which extended, with some short periods of absence, from 1816 to 1826, I thought I discerned a gradual decline in the spirit of carnevals, which will probably go out altogether, and be forgotten of men. As a truly popular amusement—as a circumstance and season which brought people of all classes together, and put them, for the time being, on the same footing,—I should almost regret such a sober consummation. My regret may be the more excusable, as I never saw the license allowed seriously abused, or fun and frolic convert themselves into riot and shameful excess. (I mean, as far as the popular body was concerned.)

One of the principal amusements of the Roman carneval is the horse-racing; but that I have seen correctly described in a former Number [102] of the 'Penny Magazine.' My recollections of these matters would carry me a long way farther, but I have already occupied too much room; and, after all, an attentive examination of the engraving will give a better notion of out-door carneval doings than I could give in many pages.

SEAL-HUNTING.



[Seal-Hunting in Scotland.]

THE limits of our former article on the structure and habits of the seal, left us room to allude but briefly to the methods pursued in hunting this remarkable animal. We are now prepared to supply the omission, furnishing also other wood-cuts in illustration of one of the methods of hunting [illegible] pen.

The [illegible] taking this animal, in use among the Greenlanders, have been fully detailed by Crantz in his 'History of Greenland,' from which we have drawn up the account immediately following.

The seal is of far more importance to the Greenlanders than the sheep is to us, or the cocoa-nut tree to the Indian. Therefore, among the Greenlanders, a man who cannot catch seals is held in very light esteem. It is the ultimate end kept in view in all the training of children. It is the only art to which they are trained



[Seal-Hunting in Scotland. Plate II.]

from infancy, and it is by the exercise of it that men maintain themselves, make themselves agreeable to others, and become useful members of the community.

The Greenlanders have three ways of taking seals; either singly with the bladder, or in company by the *clapper hunt*, or in the winter on the ice; to which peculiar methods that of shooting may now be added.

When the Greenlander, properly equipped for hunting, observes the Harp Seal, he endeavours to surprise it unawares, and approaches with the wind and sun in his back that he may not be seen or heard by it. When he comes within four, five, or six fathoms of the animal, all his implements being in previous readiness, he transfers the oar to his left hand, and taking the harpoon (to which an inflated bladder is attached by a long string) in his right, launches it with all his force against the seal. The moment the animal is pierced, the man throws the bladder, tied to the end of the string, into the water, on the same side that the seal runs and dives, which it instantly does like a dart. The seal often drags the bladder under water; but, from its size, it is so great an impediment, that the animal soon tires, and must come up again in about a quarter of an hour to take breath. The man hastens to the spot where he sees the bladder ascend, and as soon as the seal appears, throws an unbarbed lance against it. This lance always comes out of the wound it has inflicted, and the man continues to employ it until the seal is quite exhausted, when he runs a smaller lance into it, and kills it outright; but he immediately after closes the wound in order to preserve the blood. It is this mode of taking the seal which was illustrated by the cut to the previous article.

Of the several species of seal found in Greenland, only one, the Harp Seal, called by the natives *attarsoak*, which is the most stupid and careless, can be caught in this manner. Some other species, more careful or timid, are taken by several men in company, in what Crantz calls the "clapper-hunt." In this process the men cut off their retreat, and frighten them under water by clapping, shouting, and throwing stones; but as the seals must come to the surface at frequent intervals to draw breath, the men again persecute them, until at last the animals are obliged to remain so long under water, that when they do come up, they stay so long at the surface as to afford the men an easy opportunity of effecting their destruction.

The third method of killing seals (upon the ice) is mostly practised in Disko, where the bays are frozen over in the winter. Several methods of proceeding are adopted. The seals themselves sometimes make holes in the ice, at which they come to breathe. Near such a hole the Greenlander seats himself upon a stool, resting his feet on one that is lower to keep them from the cold: he thus sits watching; and when the animal comes and puts its nose to the hole, he pierces it instantly with his harpoon; and then, breaking the hole larger, he draws it out and kills it quite. Another method is for a man to lie along upon his belly on a kind of sledge near other holes from which the seals come out occasionally upon the ice to bask themselves in the sun. Near this great opening another small one is made, at which another man is stationed who holds, inserted through it, a harpoon with an unusually long shaft or pole. The man who lies upon the ice looks into the large hole until he perceives a seal under the harpoon; he then makes a signal to the other man, who instantly thrusts down the weapon with all his strength to run the animal through.

If a Greenlander happens to see a seal near its hole upon the ice, he slides along upon his belly towards it, wagging his head and imitating the grunting of a seal, so that the poor animal, concluding it to be one of its own harmless companions, allows the man to come near enough to pierce it with his long dart.

When the current wears a large opening in the ice

in spring, the Greenlanders station themselves all around it, waiting till the seals come in large droves thither to take breath, when they kill them with their harpoons. Many also are killed on the ice while they lie sleeping and snoring in the sun.

An interesting account of the habits of the seal, as observed in the Orkney and Shetland Islands, is given in the 'Fauna Orcadensis' of the Rev. George Low, minister of Birsa and Haray, from which we extract the following particulars.

Seals are very numerous in these parts, especially in the desert isles or sea-rocks that are separated from the land: there they lie in droves when the sea is low, and in season bring forth their young.

The seal swims with great rapidity, and, before a gale of wind, is full of frolic, jumping and tumbling about, sometimes throwing itself entirely out of the water, and performing many awkward gambols, at last retiring to its wonted rock or cavern, and there remaining till the storm is over. Seals seem to have much curiosity. If people are passing in boats they often come up very close, stare at them, and follow them a considerable time. If the people are speaking loud, they seem to pay much attention, and to exhibit some surprise. The church of Hoy, in Orkney, is situated near a small sandy bay, which is much frequented by these animals; and Mr. Low used to observe that when the bell rung for divine service, all the seals within hearing would swim directly for the shore, and would remain while the bells continued ringing, looking about with much appearance of wonder, but without alarm.

Numbers of seals are yearly caught upon the northern coasts, both with nets and shot, for the sake chiefly of the skins and oil. Mr. Low was credibly informed that in North Ronaldsha they were taken also for eating, and that very good hams were made from them. He had seen large numbers of seals cut up, and had no doubt that the young ones might eat tolerably well; but the flesh of the old ones is coarse-grained and black, and must be very indifferent food. We are not so much surprised as Mr. Low that the people of Ronaldsha should eat seals. He was probably aware, from Pennant, that seals formerly found a place at the tables of the great even in England, as appears from the bill of fare of the famous feast given by Archbishop Neville in the reign of Edward IV., which states that several were provided on that occasion*.

Mr. Low also informs us that in his time (he died in 1795) a ship went annually from Pomona (as we understand him) to Soliskerry, and seldom returned without 200 or 300 seals. She was manned with between thirty and forty men, who, as soon as they came up with the rock, landed,—except a few who remained on board to receive what the others killed,—and immediately surrounded the seals which were then on it. One party, armed with clubs, commenced knocking them on the head, and another employed itself in *jacking*, that is, cutting off the skin with the blubber on it, while another party put the produce on board. They continued this as long as any seals remained; and when their task was accomplished, they hastened on board and set sail, as they were in danger from the weather while they remained, as, if it blew up, it was impossible for them to get to their boats. When they returned home, the "jacks" were divided, and sold by public auction, producing five or six shillings each; and each man generally got about thirty shillings for his share, after allowing a third for the vessel, and something more than a common share for the master. When the "jacks" were sold, the blubber was cut from the skin and boiled down into oil, which sold well. The skins were fastened to the walls of the houses till dry, and were then sold to the trunk-makers and others for eight-pence or a shilling a-piece, small and great. Mr. Low adds that the local tanners dressed the seal-skin both for shoes and breeches, but they did not answer very well for the former, being soft and spongy, but, when properly managed, they did well for breeches. They were also dressed, with the hair on, for saddle-covers; and very beautiful skins are sometimes made into waistcoats.

We recur to Pennant for further information concerning the treatment of seals in Scotland. He informs us that on the coast of Caithness there are immense caverns opening into the sea, and running some hundred yards beneath the land. These are the resort of seals in the breeding-time, where they continue till their young are old enough to go to sea, which is in about six or seven weeks. The first of these caves is near the Ord, the last near Thrumster: their entrance is so narrow as only to admit a boat, but within they are very spacious and lofty. In the month of October, or beginning of November, the seal-hunters enter the mouth of the caverns about midnight, and rowing up as far as they can, they land. Each man is provided with a bludgeon, and, when properly stationed, they light their torches and make a great noise, which brings down the seals from the further end of the cavern in a confused body, with fearful cries and shrieks. At first the men are obliged to give way, for fear of being overborne; but when the throng has passed, they kill those that straggle behind, which are chiefly the young, by striking them on the nose, where a very slight blow destroys them, though they are otherwise exceedingly tenacious of life. When the work is over, the seals are dragged to the boat, which two men had been left to guard. This process is attended with great hazard, for should the torches go out, or the wind blow from the sea while the men remain in the cave, their lives are lost†.

Those who pursue the seal rather for sport than profit, adopt another method, of which the following description has been furnished by a Correspondent, whose statements our wood-cuts, from drawings by the same gentleman, are intended to illustrate:—

"One fine October morning I accompanied a military friend in quest of the seals. We embarked in a boat from Mull. The major's body-servant carried two double-barrelled rifles, and had brought an oblong wooden box, fitted with a square piece of glass at one end, to be employed in searching below the surface of the water for any dead seals that might be lost. The boat was manned by four stout highlanders, who rowed us among certain small rocky islands with which the sea in that part is studded: numerous goats and sheep pick up a living on these barren rocks, the verdure being particularly scanty, though the short grass I was told is very nourishing. In a nook of one of these islands we put the boat, and leaving the crew with an injunction to remain perfectly still, ascended the craggy side of the land;—behind a fragment of rock the keen sportsman crouched with rifle cocked, his eye ranging over the expanse, his whole figure and expression of countenance denoting eagerness mingled with caution. There was a long silence of expectation, and the whole scene, as I lay watching the surface of the water, struck me as one of the wildest and most interesting that I ever witnessed. The sea was calm as a lake, the sun shining full upon it; lofty ridges of heather-covered hills now glowing with warm light, and then subdued by passing shadows, formed a romantic background. The shores were lined by steep cliffs and reefs of jagged rocks jutting out far into the sea, and the islands before-mentioned, on one of which I was seated, varied the scene still more with colour and picturesque forms. The seal in such a calm scene ventures from the ocean-depths to inhale

* Leland; quoted in Pennant's 'Zoology,' vol. i., p. 172.

† Pennant's 'Zoology,' vol. i.

the air, and seeing no object to alarm, sports above the wave, or swims to and fro like a dog, occasionally landing on pieces of rock, and basking at his ease. Several of these singular animals soon showed their heads above the water, the sportsman waiting until they approached within shot. It is very difficult to hit them in this way, but I have seen experienced marksmen kill them from the boat at the extreme limit of a rifle's power. At one hundred yards they are frequently killed."

LOSS OF THE ROYAL GEORGE.

In May last we were enabled to furnish an account of the loss of the *Royal George*, from the statements of Mr. Ingram, one of the survivors. The Editor has lately received from him the following communication respecting the woman who was saved from destruction through his exertions, in the manner formerly described. Our readers will probably be best pleased to have the communication as we received it.

Woodford, February 17th, 1835.

Dear Sir,—I received a letter, saying that you wish to see a copy of a letter that I received from the woman that I in a measure saved from the wreck of the *Royal George* that sunk at Spithead in the year 1782, by pulling her out of one of the port-holes. You will find it copied underneath.

Dear Sir,

I remain your most obedient Servant,

James Ingram.

Wivenhoe, near Colchester, 28th August, 1834.

Sir,—I have read in the 'Penny Magazine,' published the 3rd of May last, a very interesting account of the loss of the *Royal George* at Spithead, in the year 1782; the same having been furnished through you. It is there stated that a woman was preserved, in a great measure, by your exertion, and it must be very gratifying for you to know that she is still living, and a resident in this parish. Her husband, who was on board also, was likewise saved, but he is now numbered among the dead. She is a widow, and in indigent circumstances; poor but honest: rather infirm, having passed her threescore years and ten. She has a list of the names of all those that were saved; her name is Horn. I trust you will excuse the liberty in addressing you on the subject. The poor woman was anxious I should write.

I remain, Sir,

Mr. James Ingram, Woodford. } Your very obedient Servant,

John G. Chamberlain,

One of the Churchwardens.

Bread Seals.—Take the crumb of newly-baked bread, moisten it with gum-water and milk, and add either vermilion (in powder) or rose-pink (in powder), to colour. The bread thus moistened ought to be worked and kneaded with the fingers for a considerable time, till it forms a consistent paste without cracking. It should be then laid in a cellar till next day. Then take pieces off and roll them into balls. Press one of these down on the waxen impression of a seal, so as to press the bread into every part of the impression; and, while the bread remains there, squeeze the upper part of it so as to fashion a handle by which to hold the bread-seal when in use. Take off the bread-seal, and trim off any superfluous edges. Let the bread-seals dry very slowly; for, if they are dried too suddenly, they are apt to crack. The more the bread has been worked in the hand, the more glossy will the seals be; and the impression from them (if this be attended to) will not present that dull appearance which impressions from bread-seals often bear.

GLOUCESTER CHEESE.

In the preparation of this cheese, the milk is, in the first instance, put into a cheese-cowl (which is a large deep tub) with two teacupsful of rennet. A ball of annatto is then dipped in the milk and rubbed on a piece of pantile, which is washed into the milk till the colour is as high as required. The quantity of annatto is regulated by the wishes of the cheesefactor, some liking more than others. Originally only a small quantity was employed, to induce the belief that the cheese was rich, and to prevent its being discovered that skimmed milk had been used. But now almost all the cheese is highly coloured; and the colour is no criterion of the goodness of the article. After an hour has elapsed, the milk is converted into curd; this is cut with a cheese-knife, which is about fourteen inches in length, and has two edges: it is cut gently at first, and then very small. It is suffered to remain ten minutes, when the milkmaid puts her arms into the cowl and draws the curd gently towards her, turning it over in the whey. She afterwards again draws it towards her to dip out the whey, which is strained through a sieve, and the small pieces of curd that are strained from it are returned to the cowl. The curd is then put into vats, in which cloths had been previously laid. The vats are placed one on another, and put in a cheese-press for ten minutes, a vessel having previously been placed underneath the press to catch the expressed whey. After this, the curd is taken out of the vats and broken small, and some hot whey is poured over it. The curd is then drawn to the side of the cowl to drain from the whey, which is ladled off and strained so that no curd may be wasted. Then the curd is again put into the vats, and they are pressed one on another; any curd that is pressed over the edges of the vats being put in the middle of the vats to make the mass as firm as possible. In an hour the vats are taken out of the press to have dry cloths, after which they remain in the press till night, when the compressed curd is taken out of the vats, turned and salted, and then replaced in the press, and there remains till morning, when it is salted, and also again the following evening. The second morning the cloths are taken off, but the cheeses are left in the vats seven or eight days, being turned night and morning. After that, they are put on the floor of the cheese-loft, (which is a large room on purpose for keeping cheese,) and turned every day for three weeks or a month. In two months the cheeses are scraped and painted. The paint is a red powder, which is strewed over the cheeses and rubbed on them with the hand. In three months, they are what is technically called "ready," and are fit for the cheesefactor.

The whey that drained from the curd, during the process of cheesemaking, is put into trendles (a sort of tub) and suffered to remain till the next day, when it is skimmed. From this whey butter is made, and the residue is given to pigs. The rennet is made by mixing salt and water till it will support an egg, and then boiling it half an hour. When it is cold, four calves' stomachs are put to a gallon of the brine, with bay leaves and slices of lemon. In six weeks it is fit for use.

For single Gloucester cheese, the vats, which are made of elm, are thirteen inches in diameter, and about two inches and a-half in depth: for double Gloucester cheese, the same diameter, and twice, or more than twice the depth. All the dairy-utensils, after being used, are washed with tepid water, and then scalded. In making the double Gloucester cheese, and those that are called "truckles," the same method is pursued, except that more care is used in pressing the curd into the vats, which, for such cheeses, have three perforations to let the whey drain off; and bandages of cheese-cloth are put round when the curd is above the vat. Sage-cheese is made by pounding sage and straining

the juice into a pail of milk, to which rennet is then added. The same process is observed as for other cheese till the time when the warm whey should be poured upon it, when it is broken up with as much of the simple curd as the milkmaid considers necessary, and treated as other cheese. To make the richest cream-cheeses, the thickest cream must be taken, and put, with a little salt, into a straining-cloth, which is hung up twelve hours in order that the whey may drop from it. When it is taken from the cloth, it is put between two pewter-plates, with a weight on the upper one, and turned daily during five or six days. These cheeses can only be made in this manner in warm weather. The milk that the cows give when they are first turned into the fields in the spring, and when they are afterwards pastured in fields that have been newly mown, yields nearly as much curd again as at any other period; and it is also much richer. The principal season for making the thin cheese is from April to November; and that for making the thick, May, June, and the beginning of July.

In different districts, the produce of cows differs very much; but, in the Vale of Gloucester, from 3½ cwt. to 4½ cwt. per cow is considered a fair annual average return. The same cow, on different pastures, will yield milk of very different qualities; from one will be made rank and unpleasant cheese, while the other will be fine and rich. An estimate of the profit and expenses of a farm for twenty cows can be, from the continual variation in the state of the times and local circumstances, of course only an approximation towards the truth. But the following, made in the Vale of Gloucester in 1835, where the land is rich and excellent, is as accurate an annual average statement as the nature of the subject will admit:—

	£.	s.	d.
Rent of 40 acres, at 50s., for pasture	100	0	0
——— 20 acres for hay	50	0	0
——— 2 acres of arable, for potatoes	5	0	0
Making hay, 12s. an acre	12	0	0
Carrying and ricking	2	10	0
Expenses of raising potatoes and seed	15	9	0
Tithes, 3s. 6d. in the pound	27	2	6
Poor and other rates, 3s. 9d. in the pound	29	2	11
Dairymaid, 7l. a-year (besides board)	7	0	0
——man, at 7l. a-year (besides board)	7	0	0
Wear and tear of dairy-utensils	0	10	0
Salt	0	10	0
Annatto 4s. a-pound	1	0	0
Rennet and paint	1	4	0
Interest of money laid out in stock and implements, reckoning each cow at from 8l. to 10l., and chance of loss	20	0	0
Profit	87	11	7
	£366	0	0

	£.	s.	d.
Cheese, 4 tons, at 4 cwt. each cow, and at 44s. per cwt.	176	0	0
Value of whey	20	0	0
Pasture of colts and sheep	20	0	0
Profit of calves	30	0	0
Butter	90	0	0
Pigs	5	0	0
Potatoes	25	0	0
	£366	0	0

The capital necessary for the purchase of stock for such a farm would, according to present prices, be about 300l.; but as it is not prudent that the whole of the capital should be expended, a man who had only that sum should take a smaller farm, and reserve a part for the payment of work-people, and other incidental expenses which would be required before much profit was derived from the farm. From the depressed state of agriculture, the present time is not by any means auspicious for the commencement of business as a dairy-farmer. The requisite dairy-utensils will cost about 25l.

Wild-Dogs in Van Diemen's Land.—The annoyance and danger occasioned by the wild-dogs in Van Diemen's Land is still a subject of great complaint in the papers of that colony; and the most active exertions hitherto used seem to have had little effect in abating the nuisance. The dogs appear rather to increase in number and boldness. A case is mentioned in which a person named Akerly was assaulted by thirteen of these animals, and would probably have been killed if he had not contrived to get up into a tree. The means hitherto employed to eradicate them do not seem to have been commensurate with the growth of the evil. A society has been established at Gaddesden, near Campbell Town, to effect their destruction; and the house of the chairman exhibits a collection of skins, to the number of a hundred, of dogs that have been killed, of almost all kinds, from the shepherd-dog to the Newfoundland. It is thought that unless the most decided measures are taken, it will be impossible to pasture sheep in the colony. The dogs bring forth six or eight young at a litter, and commence breeding at one year old, while the sheep brings forth only one, and does not commence breeding until two years of age. The ultimate and discouraging prospect which this opens is brought nearer by the daily defection of the domestic dogs of the colony to the wild ones. "At the remote stock-huts," says a recent paper, "a free man keeps as many dogs as he pleases; frequently six or eight are kept; these dogs provide for themselves, and continually make off to the wild packs. All remonstrance is received with a smile of contempt, and returned by insult; and until such people are strictly prohibited from keeping dogs in the pastoral districts under heavy penalties, matters are not likely to mend: indeed it is to be feared that the evil is fixed for ever—that it has been too long neglected, and is now past remedy." We are too well assured of the resources and power of civilized men to partake of these apprehensions; but any delay now in organising a plan of simultaneous operation against the dogs, is likely to render their future extirpation a matter of great and increasing difficulty and expense. Meanwhile, at this distance from the spot, it is interesting to watch the various aspects in which this remarkable state of things appears, and to observe the different measures which it may be necessary to adopt against the canine depredators. Since writing the above we find that an "Act of Council" has been issued for the purpose of restraining the increase of dogs. All dogs are to be registered; and none are to be left at large except in Hobart Town and Launceston. Unregistered dogs, or dogs found at large contrary to this order, are to be killed. The persons killing them are to be paid from 5s. to 40s. for each, out of a fund formed by the registration fees. The registration fee for a watch-dog kept chained, or a sheep dog, is 2s. 6d.; all other dogs 10s., or if females double the respective amounts. The local newspapers are not very sanguine in expectations of good from this measure.

On the Hatching of Poultry.—In the hatching of poultry, as in most other things, Nature is the best guide. The hen and duck, if left to themselves, find some dry, warm, sandy hedge or bank, in which to deposit their eggs, forming their nests of leaves, moss, or dry grass. In this way the warmth is retained when the bird quits the nest for the moments she devotes to her scanty and hurried meal. The good housewife's mode is the reverse of this. She makes a nest, or box, of stone, brick, or wood, and fills it with clean long straw. By these means, less heat is generated by the hen, and that which is produced quickly escapes in her occasional absences;—the eggs are chilled and addled, and frequent failures ensue in the expected brood. To obviate this, the best mode is to put at the bottom and sides of the boxes of the henhouse, a sufficient quantity of fine, dry sand, or of coal or wood ashes, lining them with a little well-broken dry grass, or untwisted haybands, or moss, or bruised straw. Wood-ashes have been found to be the best, as they produce the effect of destroying the fleas by which poultry are so much infested; and that this will not be disagreeable to them is evident from the propensity which they have to roll in heaps of dust, or of ashes of any kind. An experienced rearer of poultry adopted the method above described during a long course of years, and scarcely ever met with a disappointment. As this is the season for the incubation of every species of domestic poultry, we have thought the above might be acceptable to many classes of our readers.

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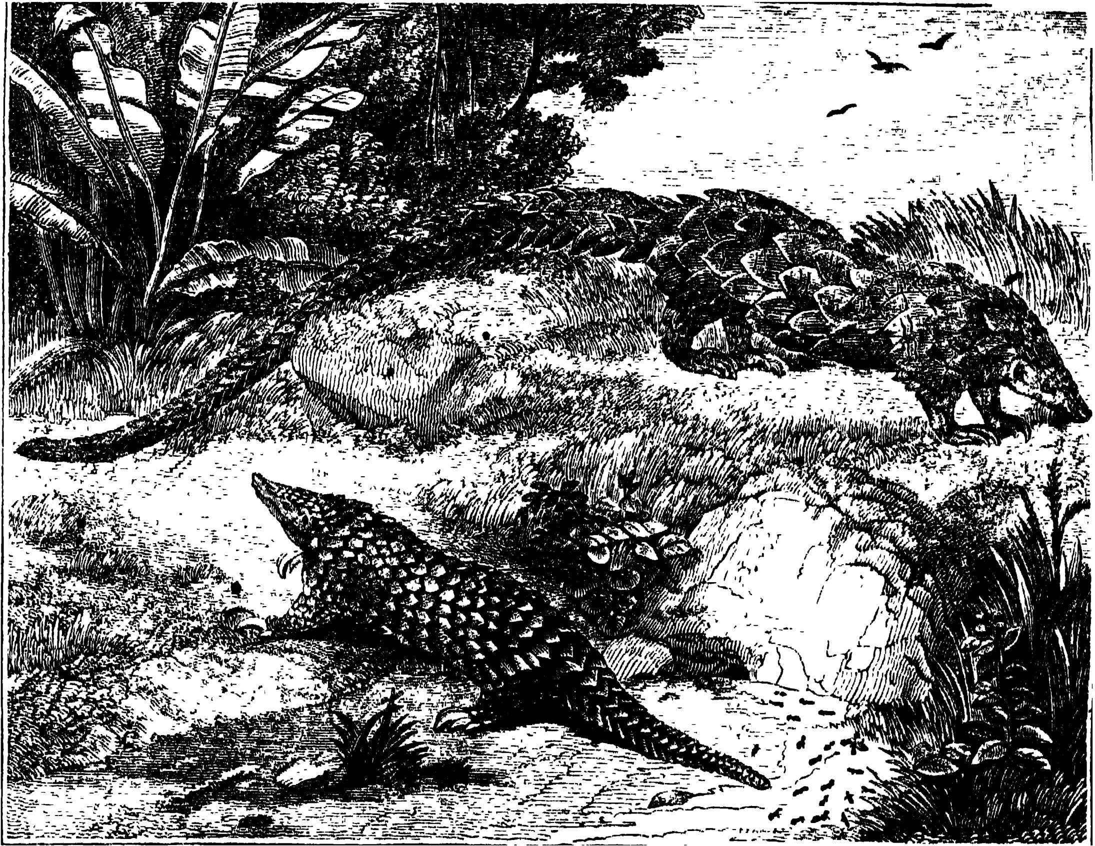
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THE MANIS.



[Long and Short-tailed Manis.]

THE animals of this genus (*Manis*) present an appearance quite as extraordinary as that of the armadillo tribe; being covered on every part, except the belly, with exceedingly strong, large, and horny scales. These, when the animals roll themselves up, furnish a suit of armour by which they are defended much more effectually than even the armadillo is against the assaults of their enemies. This armour is a compensating circumstance in their structure, giving them the security which, from their want of teeth, their inability to grasp with their feet, and their perfectly harmless nature, they would otherwise want. The external covering, together with the unusual length of the body and tail, gives to these creatures an appearance so much resembling that of the lizard, that they have been called "scaly lizards." These animals have, however, no proper alliance with the lizard tribe; yet, on a general view of the animal kingdom, they may be admitted to be a link in the chain of beings which connects the proper quadrupeds with the reptile class.

With the exception of their scaly covering, the animals of this genus have much resemblance to the ant-eaters in their structure and general habits. Like them they live by thrusting their long tongue into the nests of ants and other insects, and then suddenly retracting it into their mouths and swallowing their prey. They are natives of India and the Indian isles. Our engraving represents the two species of the genus which are distinguished as long-tailed and short-tailed.

The long-tailed or four-toed manis (*manis tetradactyla*) is known in India by the name of the phatageu. It is of a very long and slender form. The head is small and the snout narrow. The whole body, except beneath, is covered with broad but sharp-pointed scales, which are striated, or divided by small channels like those of cockle-shells, throughout their whole length. The throat and belly are covered with hair. The tail is more than twice the length of the body, and tapers gradually to the tip. The legs are very short: each foot is furnished with four claws, of which those of the fore-feet are stronger than those of the hind. Both the tail and the legs are scaled in the same manner as the body. The colour of this animal is of an uniform deep brown, with a cast of yellowish, and with a glossy polished surface. It grows to the average length of five feet, from the tip of the nose to the extremity of the tail.

The short-tailed or five-toed manis (*manis pentadactyla*) is generally called in India the pangolin, but in Bengal it is called, in the Sanscrit language, *vajracite*, or the thunderbolt reptile, on account of the excessive hardness of its scales, which are said to be capable of even striking fire like a flint. This species differs from the former in being of a much thicker and shorter form. The tail in particular is very differently proportioned, not being so long as the body; it is very thick at the base, and from thence tapering gradually, but terminating very obtusely. It has also five instead

of four claws to each foot; of which those on the fore feet are of great strength, excepting the exterior one, which is much smaller than the rest. This species is scaled in the same manner as the preceding, but the scales differ in shape, and are much larger and wider in proportion to the body and tail. In the larger specimens of this species of pangolin the scales are smooth; but in those that are smaller they are slightly striated about half way from the base. In some specimens a few bristles are found between the scales; but in others this is not observed. The parts without scales are covered with hair. The animal is of a very pale yellow-brown colour, with a surface as glossy as in the preceding species. It is a native of India; and naturalists are disposed to consider that it is the same animal (the Quogelo of the negroes) which Des Marchais describes as a native of Guinea. He says, that it there grows to the length of eight feet, of which the tail is about four; that it lives in woods and marshy places, feeding on ants, which it takes by laying across their paths its long tongue, which is covered with a viscid matter, so that the insects which attempt to pass it cannot extricate themselves. It walks very slowly with its claws bent under its feet, and would be the prey of every ravenous beast, had it not the power of rolling itself up, and opposing to its adversary a formidable defence of erected scales. The hungry leopard then vainly assails it with its powerful claws, and after much fruitless exertion is obliged to leave it in safety. The pangolin endeavours to elude the vigilance of man by retiring into holes in the rocks, or into burrows of its own excavation, where the female produces and suckles her young. The negroes despatch the animal with blows of a stick, sell the skin to Europeans, and eat the flesh, which is white and savoury, and is highly relished by the natives.

It is stated in the 'Asiatic Researches' that the Malabar name of this animal is *alungu*, and that the natives of Bahar call it *bajar-cit*, or the stone-vermin. In the stomach of the specimen examined by Mr. Burt, and described by him in the above work, about a tea-cup full of small stones were found. There were indeed no traces of animal or vegetable substances in its stomach or intestines; and Mr. Burt inclines to the opinion that it is capable of digesting and deriving nourishment from mineral substances. It is more reasonable to conclude, however, that stones and gravel are merely swallowed by the pangolin to assist digestion. The tongue in the specimen (a small one) examined by Mr. Burt was about the thickness of the little finger at the root, tapering from thence to a point; and when dissected out, it was capable of being extended to a length more than equal to that of the animal exclusive of the tail. The specimen was a female, and her organs were those of a viviparous animal. This it was important to notice, because Buffon had stated it as a general principle that all quadrupeds covered with scales are oviparous *.

In the sixtieth volume of the 'Philosophical Transactions,' a figure is given of a species of this animal which is there called the new manis, and which Pennant classes as a new species under the name of the broad-tailed manis. Dr. Shaw, in his 'General Zoology,' follows the precedent, but doubts that it is a distinct species. It has five toes on the fore, and four on the hind-feet. The belly is quite smooth. The tail is very broad, decreasing to a point. This specimen was killed in the house of a merchant at Tranquebar, having been discovered in the cavity of a wall. When pursued, it rolled itself up in such a manner as to leave only the back and tail visible, and was destroyed with great difficulty.

The animal mentioned in the 'Asiatic Researches' presents some small differences from that described under the name of pangolin by Buffon; and the last-named broad-tailed species is somewhat different from both. Alluding to this, Dr. Shaw observes:—"These differences do not seem sufficient to constitute a specific distinction, and are probably owing to the differences of age and sex. In the British Museum are specimens of different sizes which show those gradations. In one the scales all over the animal are so regularly and completely truncated at the extremity as to exhibit the appearance of so many hexagons. In another, they are remarkably broad and rounded; and in a third, which is a very large specimen, they are less obtuse at the tips and somewhat irregularly terminated, as if notched or worn through age. The proportional breadth of the tail also varies somewhat in these specimens, and seems greatest in those that are least advanced in age."

* Asiatic Researches, vol. ii., p. 353, &c. Calcutta, 4to. edit.

ROBERT SOUTHWELL.—No. II.

It has been well remarked of Southwell as a writer, that his prose is, as such, more flowery and imaginative than his verse. The charm of goodness of nature and kindness of heart, united with the purest morality, distinguishes his writings; and while they afford constant traces of a poetical imagination, we discover that he seems as if afraid to trust himself in the fairy-land of poesy, lest he should imbibe some of its illusions. This dread he appears to throw off in preparing his prose; one consequence of which is, that while his verse is in general marked by gentleness and simplicity, his prose is characterized by energy and passion.

The longest and most laboured of Southwell's poems is 'St. Peter's Complaint,' consisting of 112 six-lined stanzas, in which the apostle laments his guilt in having denied his Master. This is one of the only two of his works in the British Museum. It is followed by three short poems in the same style; from one of which, called 'St. Peter's Comfort,' we extract the following passage:—

"The lopped tree in time may grow again;
Most naked plants renew both fruit and flower;
The sorriest wight may find release of pain,
The driest soil suck in some moist'ning shower;
Times go by turns, and chances change by course,
From foul to fair, from better hap to worse.

The sea of Fortune doth not ever flow,
She draws her favours to the lowest ebb;
Her tide hath equal times to come and go;
Her loom doth weave the fine and coarsest web:
No joy so great but runneth to an end,
No hap so hard but may in fine amend.

Not always fall of leaf, nor ever spring;
No endless night, nor yet eternal day:
The saddest birds a season find to sing;
The roughest storms a calm may soon allay.
Thus with succeeding turns God tempers all,
That man may hope to rise, yet fear to fall."

Among Southwell's minor poems there is one which is too long to insert entire; but as we are unwilling to omit it altogether, we extract the stanzas which will best bear separation from the context.

"My conscience is my crown,
Contented thoughts my rest;
My heart is happy in itself,
My bliss is in my breast.

My wishes are but few,
All easy to fulfil;
I make the limits of my power
The bounds unto my will.

I fear no care of gold,
Well-doing is my wealth;
My mind to me an empire is *,
While grace affordeth health.

* The writer of the popular verses beginning with—
"My mind to me a kingdom is,"
appears to have kept this poem pretty closely in view.

I clip high-climbing thoughts,—
The wings of swelling pride;
Their fall is worst, that from the height
Of greatest honour slide.

Since sails of largest size
The storm doth soonest tear,
I bear so low and small a sail
As freeth me from fear.

* * * *

No change of Fortune's calm
Can cast my comforts down:
When Fortune smiles, I smile to think
How quickly she will frown.

And when in froward mood
She prov'd an angry foe,
Small gain I found to let her come,—
Less loss to let her go."

'Mary Magdalen's Funeral Tears' is numbered among Southwell's prose works, although it seems to us to be, in all but metre and rhyme, the most essentially poetical of his compositions. Indeed, his original editors would seem to have regarded it as a poem. It is printed in the same volume with St. Peter's Complaint, and the title is, "St. Peter's Complaint and St. Mary Magdalen's Funerall Teares. With sundry other selected and devout Poems. By R. S., of the Society of Jesus." The piece is of essentially the same character with the 'Complaint,' it being composed of the lamentations of Mary Magdalen at the tomb of Christ, with comments on her circumstances, in the same style of composition with her complaints.

As we have room for only one specimen of Southwell's prose, we prefer to take it from his letter to his father, which has been already mentioned in the notice given of his life. With some alterations and omissions, it appears under the title of "The Dutiful Advice of a Loving Son to his Aged Father," in Sir Walter Raleigh's "Remains," to which work, not knowing where to refer for the original, we turn for the following extract:—

"Remember that you are now in the waning, and the date of your pilgrimage well nigh expired, and now that it behoveth you to look towards your country. Your force languisheth, your senses impair, your body droops, and on every side the ruinous cottage of your faint and feeble flesh threateneth the fall: and having so many harbingers of your death to premonish you of your end, how can you but prepare for so dreadful a stranger? The young man may die quickly, but the old man cannot live long: the young man's life by casualty may be abridged, but the old man's by no physic can be long adjourned: and therefore if green years should sometimes think of the grave, the thoughts of old age should continually dwell in the same.

"The prerogative of infancy is innocency; of childhood reverence; of manhood maturity; and of old age wisdom. And seeing, then, that the chiefest properties of wisdom are, to be mindful of things past, careful of things present, and provident for things to come, use now the privilege of nature's talent to the benefit of your own soul, and procure hereafter to be wise in well doing, and watchful in the foresight of future harms. To serve the world you are now unable; and though you were able, yet you have little cause to be willing, seeing that it never gave you but an unhappy welcome, a hurtful entertainment, and now doth abandon you with an unfortunate farewell. * * * * Remember, I pray you, that your spring is spent, your summer overpast, you are now arrived at the fall of the leaf; yea, and winter colours have long since stained your hoary head.

"He that is tossed with variety of storms and cannot come to his desired port, maketh not much way, but is much turmoiled. So, he that hath passed many years, and purchased little profit, hath a long being, but a short life: for life is more to be measured by well doing than by number of years; seeing that some men by many days do but procure many deaths, and others in short space attain the life of infinite ages."

Such extracts as we have given from the works of Southwell might be greatly multiplied; but we feel that enough has been furnished to serve our intended purpose, which was to indicate the character of his mind and talents, and to justify the interest our former article expressed about him, and our regret for the evil days on which he fell. It was also our desire to furnish our readers with an opportunity of becoming acquainted with one who was certainly not the least, although one of the most forgotten, of the seventy poets who flourished in the reign of Elizabeth. While we lament the most unworthy fate of this excellent and gifted man, let us once more recal the attention of our readers to the considerations which should, in some measure, mitigate the severity of the reprehension with which we might visit the doings of former times. It is only by reference to the feelings and principles of action which are contemporary with events, that the events themselves can be completely or instructively understood.

Louis XI.—The following particulars are found in Philip de Comines' enumeration of the "strange fancies" of this prince. "He had a mighty curiosity for dogs, and sent into foreign countries for them (as well as for his horses), into Spain for one sort, into Bretagne for another, to Valentia for a third; and bought them dearer than the people asked. He sent into Sicily to buy a mule of a private officer in that country, and paid him double the value. At Naples he caused all the horses and strange creatures to be bought up that could be found; and, in Barbary, a sort of lion, no bigger than a fox, which he called adits. He sent into Sweden and Denmark for two sorts of beasts those countries afforded, one of them called an elk, of the shape of a stag and the bigness of a buffalo, with short and thick horns; the other called rengeiero, of the shape and colour of the fallow-deer, but their heads much larger,—for each of which he gave the merchants 4500 Dutch florins. Yet when all these varieties were brought him he never valued them, and many times would not so much as see the persons that brought them to his court."

Corean Repasts.—A little after noon, two large boats came off, bringing a complete Corean dinner for the whole crew, consisting of chicken-broth, with vermicelli, slices of pork, salads, and various sorts of cake, and bowls of honey, with jars of wine. It was explained to us that the chief's kin and the general had sent this entertainment for the ship's crew, and had come to partake of it with us. Evidently this was meant to compensate for the apparent inhospitality shown to us on shore; and as, apparently, the chiefs were hitherto acting on their own responsibility, and might perhaps be liable to the severe displeasure of an arbitrary despot for what encouragement had been afforded us, it would have been ungracious on our part not to have shown ourselves sensible of the kindness of their attentions. We therefore expressed ourselves much pleased, and directed the tables to be ranged out on deck. The front of the poop was carpeted for ourselves and the chiefs. The customs of the Coreans at their meals, it appears, are similar to the Japanese. Each guest has a separate little table, about a foot high, before him. The chop-sticks used are like the Chinese; but they carry a small knife at their girdle to cut their meat with. Most of the dishes, though cold, proved so palatable, that we ended by making a very hearty repast, greatly to the delight of the chiefs. Before they went, I asked when an answer might be expected to our letter. The reply was, "Wait in peace for a few days." On a previous day, I had given a list to kin of the various articles of stock and provisions we needed for the ship, requesting to be allowed to purchase them; but, as this was objected to, I said I would be happy to comply, and receive them as a present. These having not yet come, I gave another list to the general, which he promised should be sent the following day.—*From Parliamentary Papers relating to the Ship Amherst.*

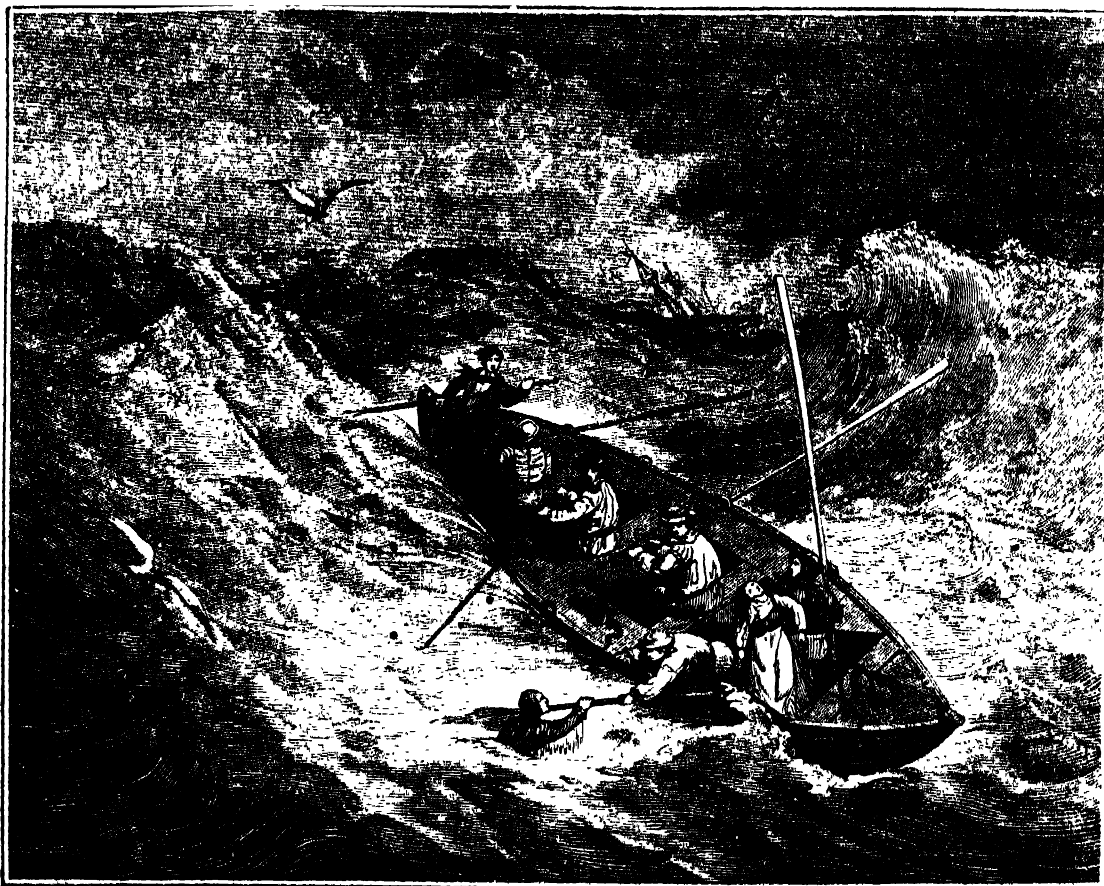
THE LIFE-BOAT



[Preparing to launch the Life-Boat.]

The heavy seas which break upon the rugged coast of Northumberland and Durham render that part of the country the frequent scene of disastrous shipwrecks. In the year 1789, the ship Adventure, of Newcastle, was stranded, on the south side of Tynemouth Haven, in the midst of tremendous breakers. The crew climbed up into the shrouds for safety, from whence they dropped into the sea in the presence of thousands of spectators, not one of whom dared to venture out to their assistance in the common description of boats, although stimulated by the prospect of a high reward. The inhabitants of South Shields were so strongly affected by this melancholy occurrence that a public meeting was called, at which a committee was formed, and empowered to offer premiums for plans of a boat on a principle which should render it impossible to sink in the heaviest sea. Among many which were laid before the committee, that of Mr. Henry Greathead obtained the most general approbation; and, in pursuance of their orders, the first life-boat was constructed by him, and launched on the 30th of January, 1790. The value of this invention was soon fully proved, and its importance to our mercantile navy acknowledged. Mr. Greathead had made his models public, and therefore did not himself receive those advantages which, in justice, he ought to have derived from his ingenuity. In 1802 he accordingly petitioned the House of Commons, for the purpose of obtaining from the nation such reward as, in consideration of these circumstances, he might be thought to deserve. The petition was referred to a committee, which particularly directed its inquiries as to the utility of the life-boat, and the originality of the invention claimed by Mr. Greathead. On the first point, several old seamen and persons employed in shipping were examined. One of the former stated that he had himself been in the life-boat, and had seen her go off scores of times, and never saw her fail in bringing away the crew from wrecks or vessels in distress. No other boat could have gone from the shore at the time the life-boat went. He also stated that, in the event of the life-boat filling with water, she would still continue upright, and not founder, as boats of the common construction did. He had seen her come ashore so full of water that it ran over each side. Another individual had been witness to the wreck of several ships at the same time. Out of one vessel the life-boat took fifteen men, who would otherwise inevitably have perished, as the ship went to pieces immediately after, and the wreck came on shore almost as soon as the boat. The crew of one of these vessels took to their own boat, which sunk, and all but two were lost. It was stated that, on one occasion, when the boat was full of water, the crew all went to one side, in order to try the possibility of upsetting her, which they were unable to accomplish. At the time when this committee was appointed, twelve years had elapsed since Mr. Greathead's invention, during which period at least three hundred persons had been brought on shore from wrecks and ships in distress off Shields alone. It was fully established that no sea, however high, could upset or sink the life-boat. The originality of the invention being also clearly due to Mr. Greathead, Parliament voted him the sum of 1200*l.*, "as a reward for his invention of the life-boat, whereby many lives have already been saved, and great security is afforded to seamen and property in cases of shipwreck." The subscribers to Lloyd's presented Mr. Greathead with 100 guineas, and voted 2000*l.* for the purpose of encouraging the building of life-boats in different ports of the kingdom. Two years afterwards, the Emperor Alexander presented Mr. Greathead with a valuable diamond ring.

Owing to the dangerous character of the Durham and Northumberland coast, and the quantity of ship-



[The Life-Boat in a Storm.]

ping belonging to our north-eastern ports, the life-boat is oftener launched here than from any other port of the kingdom; and, under the guidance of its crew, more frequently snatches the mariner from destruction.

The great characteristic of the life-boat is its buoyancy. It possesses this requisite quality in consequence of the bottom being hollow and perfectly air-tight; and the sides are also surrounded by several boxes, or compartments, which are also air-tight. We believe that boats are coming into use provided with a set of copper-tubes. One upon this plan has lately been constructed at Sunderland. The division of the sides into several parts prevents the boat being endangered in case of its being struck by a cross wave. This, however, can seldom occur, because both ends being formed alike, the direction of the boat can be changed without exposing it to the rude shocks to which it would be subjected by turning from one point to another in a tempestuous sea. It is also contrived that when the boat ascends the waves any water which it may have shipped passes out at the lower end; and there are also a number of holes at the bottom, through which whatever remains is immediately discharged. The Sunderland boat was built in the year 1800, ten years after Mr. Greatheed's invention had become known. It is twenty-six feet in length, and the width is nine and a-half feet. This boat, on one occasion, would have been knocked to pieces by a cross sea but for the division of the side into various parts. In the bottom are six air-holes, which are so proportioned to the size and gravity of the vessel that, when full of water, it is discharged in forty seconds. She is managed by six or ten men, as the urgency of the case may require, two of whom steer with seventeen-feet oars. The oars are secured in their places by a coiled rope. The boat is preserved in repair, and its crew paid, by a small impost on ships entering the harbour. When out of service, it is kept under a substantial shed near the beach, mounted upon a four-wheeled carriage. As soon as the thrilling cry "A wreck!" is heard, the lieutenant of the boat assembles his men; and, after a survey of the ill-fated ship, each proceeds to his place in the boat. When all their arrangements are completed, two or more horses are harnessed to the carriage, and the boat is drawn to the water's edge. By a mechanical contrivance, the frame of the carriage is then brought into a sloping position, and the boat is launched amid the breakers to pursue its benevolent enterprise.

The men who compose the crew of a life-boat often acquire a sort of moral dignity, occasioned by the exercise of the manly virtues which a faithful discharge of their duties demands, and the sympathetic feelings to which they are habituated by the nature of their vocation. A fine fellow at Tynemouth said to the artist who made the sketches which accompany this description, patting the sides of his boat as if it were a favourite animal, "Have you made a picture of my boat, Sir? She's a good one, and has been with me at the saving of twenty-seven lives in one morning."

We find the following hints in Mr. Greatheed's 'Instructions for the Management of Life-Boats:'—The boats, in general, of this description, are painted white on the outside; this colour more immediately engaging the eye of the spectator when rising from the hollow of the sea. The person who steers her should be well acquainted with the course of the tides, in order to take every possible advantage: the best method, if the direction will admit of it, is to head the sea. The steersman should keep his eye fixed upon the wave, or breaker, and encourage the rowers to give way as the boat rises to it; being then aided by the force of the oars, she launches over it with vast rapidity, without shipping any water. It is necessary to observe that there is often a strong reflux of the sea occasioned by the stranded wrecks, which requires both dispatch and

care in the people employed, that the boat be not damaged. When the wreck is reached, if the wind blows to the land, the boat will come inshore without any other effort than steering."

In case of a ship being stranded on a part of the coast where the services of the life-boat are inaccessible, it has been recommended to fasten a boom to the boat's bow, by which means the violence of the waves are broken. In a treatise on 'Practical Seamanship,' by Mr. Hutchinson, an instance is mentioned of the preservation of ten men in a small boat only twelve feet long, by means of a log of wood tied to the boat's bow, which kept her end on to the waves, and preserved her from filling with water.

MINERAL KINGDOM.—Section XXXV.

Gold.

This metal possesses above all others the qualities of utility and beauty, without any deleterious property. It has been in all times regarded as the most perfect and most precious of the metals, and among the more civilized nations has been the standard of value for other commodities. Its peculiar rich hue is well known; and it is the only metal of a yellow colour. In its pure state it is as soft as tin, and is very flexible, but it is capable of receiving a high lustre by polishing with a burnisher, although inferior in brilliancy to steel, silver, and mercury. It possesses little elasticity or sonorousness. Its specific gravity is 19·30—that is, it is more than nineteen times heavier than water, bulk for bulk. In *malleability* it exceeds all other metals; for one grain of it can be beat out into a leaf so thin as not to exceed $\frac{1}{280,000}$th part of an inch in thickness, and which will cover fifty-six square inches; in this state, notwithstanding the high specific gravity, it will float in the air like a feather. But even that is not the extreme limit to which it is capable of being extended; for a coating of gold, which is calculated to be only one-twelfth part of the above thickness, is produced by another process: if a silver wire be covered with gold, it may be drawn out into wire of still greater fineness, and retain a coating of gold; and one grain of gold will in this way coat a surface of wire about two miles and three-quarters in length. In *ductility* it also exceeds all other metals; that is, it can be drawn into finer wire than any other. In *tenacity*, however, it is greatly inferior, standing only fifth in order, in respect of that property when compared with other metals: a wire $\frac{1}{13}$th of an inch in thickness will not support a greater weight than 150 lbs., whereas iron wire of the same diameter will sustain a weight of 550 lbs. without breaking. It is not a perfectly opake body like all the other metals, for gold leaf transmits a green light; as may be conveniently observed by laying a leaf between two thin plates of colourless glass, and holding it between the eye and a strong light. It is less fusible than silver, and more so than copper: Mr. Daniel estimates its melting point to be at a heat equal to 2016° of Fahrenheit's scale. It is the most perfect of all conductors of heat; that is to say, if heat be applied to one end of a rod of gold, it will be transmitted from particle to particle, and become sensible at the other extremity of the rod more quickly than through any other substance in nature. Thus while the conducting power of a rod of porcelain is represented by a velocity of 12, of lead by 179, of iron by 374, the velocity of gold is 1000. Gold may be exposed for ages to air and moisture without undergoing any alteration; and a quantity of it has been kept for thirty weeks in a melted state in a glass-house furnace without the loss of a single grain, and without any change in its nature. But if a small portion of it be intensely heated by electricity, or by the oxy-hydrogen blow-pipe, it burns with a greenish blue flame, and is dissipated in the form of a purple powder.

Gold is found, almost universally, in the native or metallic state; but it is seldom quite pure, being generally alloyed, in greater or less degree, with other metals, and usually with silver, copper, or iron. The Prussian chemist, Klaproth, found a native gold from the Altai Mountains to contain as much as 36 per cent. of silver; and Professor G. Rose, of Berlin, by more recent analysis, has found a specimen from the same district to contain 38 per cent., and another from Hungary nearly 39 per cent. He found the gold of the Ural Mountains to contain from 2 to 15 per cent. in general; but one variety so free from foreign admixture as to contain nearly 99 per cent. of pure gold. Boussaingault has found the native gold of Colombia to contain from 2 to 36 per cent. of silver. It is found in veins in the primary and older sedimentary rocks, and also in the unstratified rocks that are associated with these, such as granite, porphyry and hornblende rock; and sometimes, also, in the more ancient of the secondary strata. The veinstone in which the gold occurs is most generally quartz. In Transylvania small quantities of an ore have been found, in which gold is in combination with a considerable proportion of the rare metal *Tellurium;* and there is a kind of iron-pyrites—that is, a sulphuret of iron,—not of very unfrequent occurrence, which contains minute scales of pure gold interposed between the laminæ of the pyrites. When gold occurs in veins in solid rocks, it is sometimes regularly crystallized. In the splendid collection of minerals belonging to the Russian noble, Prince Demidoff, there are many beautiful crystals of gold from the Ural Mountains. By far the greatest proportion of this metal, in all countries which produce it, is obtained from alluvial soils, or deposites, where the gold is found in scales, grains, and lumps, rounded by attrition: so that the metal has evidently been derived from pre-existing rocks, in which it was disseminated either in minute scales or veins, and which have been broken up; the fragments having been abraded by the action of water in the same manner as the pebbles of tin-stone in the stream-works of Cornwall, and other places. For the sake of convenience, we shall call this "*stream-gold.*" It is found in the sand and gravel of the beds of many rivers and smaller streams in most countries of the world; but the chief quantity is met with in extensive alluvial deposites, formed by other aqueous causes than the water of existing rivers. The lumps of gold, in such situations, are of very various sizes; and masses have been found in the Ural Mountains of eighteen and twenty pounds weight,—in Columbia, of twenty-five pounds; and one is said to have been found near La Paz, in Peru, of nearly forty-five pounds weight, the value of which, if estimated at 3*l.* 10*s.* per ounce, would be 1890*l.* A considerable portion of stream-gold appears to have been derived from auriferous pyrites; for almost all the sands from which this metal is gathered are of a deep blackish-brown colour, and are highly ferruginous. It is a remarkable and not a very explicable circumstance that, in countries which contain deposites of alluvium rich in gold, and the materials of which must have been derived from rocks at no very great distance, it has rarely happened that the attempts to find the metal in the neighbouring rocks have been successful. It may be asked, how gold comes to be so often found in alluvial soils, and that other metals should not be met with in the same way? Platinum is so found, and so is silver, but only very rarely. The reason is, that the ores of other metals are liable to decomposition by exposure to air and moisture; and, therefore, although they might have been originally in fragments, like the other materials of the rocks that were broken up, they would gradually disappear by decomposition; whereas

the gold, from its indestructible nature, remains unchanged, except in form. In the same way stream-tin has been preserved, because the oxide of tin is not affected by air and moisture.

To describe the methods employed to separate gold from the other minerals with which it is combined would lead us into somewhat tedious details. The great value of gold makes searching after minute quantities profitable, which would never be practised with other metals. The usual mode of separation is by a process called *amalgamation*, which is founded on the property which mercury (or quicksilver) has of combining very readily with gold, and of being easily separated from it again by the application of heat. The etymology of the word is Greek, viz., *ama*, *together*, and *gameo*, *to marry*; expressive in this way of the union of the gold with the quicksilver. Amalgamation is effected in this manner: the ore, broken to pieces and freed as much as possible from stony impurities, is reduced to powder, and made up into a paste with salt and water. Quicksilver in proper proportion is added, and the whole is well beaten and shaken together, and kept at the temperature of boiling water for some days, till the union is effected; after which the earthy matter is washed away, and the residue is subjected to distillation, by which the quicksilver is separated, and at the same time recovered in great part, and the gold, usually containing a little silver, is left behind. This is the usual process followed in Mexico and South America. In Hungary the gold is generally purified by another process, called *cupellation*. This depends on the property which lead and copper, the metals with which the gold is there mixed in the ores, have of attracting oxygen from the air when exposed to a strong heat, and which the gold does not. The ores are well roasted, to drive off the sulphur they usually contain, and are fused in several successive operations. The metallic mixture, freed from stony matter thus obtained, is put into a vessel made of bone-ashes called a *cupel*; it is made of that material because it forms a porous texture, and is, at the same time, very refractory in the fire. A strong blast of intensely-heated air is now made to pass over the metal in a state of fusion, and the lead and copper becoming oxidated, are absorbed by the cupel, or skimmed off, and the gold is left behind. The lead is the great agent, for its oxide is easily fusible into a glassy substance, which sinks into the cupel, carrying the other impurities along with it; so that if the ore does not naturally contain much lead, a portion is added. We have described these processes only very generally: there are many delicate manipulations in the mode of conducting them, upon which success in the result greatly depends.

In our next section we shall proceed to describe the principal sources from which gold is derived. The 'Historical Inquiry into the Production and Consumption of the Precious Metals,' by William Jacob, Esq., may be consulted with advantage by those who are desirous of minute information; and we have ourselves relied upon it for many of the facts contained in the following sections.

THE CHAMPIONSHIP OF ENGLAND.

There are some estates, held by grant from the Crown, which confer a title or dignity on their possessor; such is Arundel Castle in Sussex, in right of which the Duke of Norfolk claims the Earldom of Arundel, and such is the manor of Scrivelsby in Lincolnshire, which constitutes the Dymokes Champions of England.

Scrivelsby, or Scrivelsby Court, as the Champion's residence is generally called, lies about three miles to the south of Horncastle, and is a very elegant mansion, which has lately been modernized. The grounds about it are well wooded, and laid out with taste, so that, altogether, Scrivelsby forms, what is not very common in that part of the county of Lincoln, a highly-picturesque residence.

Of the origin of the office of Champion no very satisfactory information can be given; but we know that William the Conqueror introduced it into England, and that the person who was first honoured with the title was Robert de Marmyon, Lord of Fontenoy, who bore the Duke's banner at the battle of Hastings, and had preserved the life of his sovereign in the field. William rewarded this faithful follower by the grant of several manors in the newly-subjugated country, and among the rest that of Tamworth, in the county of Stafford, and that of Scrivelsby in the county of Lincoln, attaching to the possession of the latter the honourable office of being *Champion to every future King of England*.

The duty required of the Champion was, that on the day of the Coronation he should, in complete armour, and mounted on a good war-horse, come into the presence of the King and all his Court, and make proclamation, that if any one dared to gainsay the right and title of the King to the Crown of England, or that he ought not to enjoy it, that man was a liar and a traitor; and that he (the Champion) was ready to prove it upon him by single combat, on what day soever he should appoint. He was then to throw down his glove, or gauntlet, and, according to the custom of the time, whoever took it up was considered to accept the challenge.

Besides the permanent holding of the manor, the Champion, at every Coronation, was entitled to a gold cup and cover, the horse on which he rode, which was stated to be the second best in the King's stables, with its saddle and furniture, a complete suit of armour, and twenty yards of crimson satin: these perquisites of office form a valuable and interesting heir-loom in the armoury at Scrivelsby Court.

The first that bore the office in this country was, as we have seen, Robert de Marmyon; and it seems, with the manor of Scrivelsby, to have remained in that family till the twentieth year of Edward I., when Philip, the last male heir of the Marmyons died, and left two daughters: the eldest took for her dowry the manor of Tamworth, and the youngest that of Scrivelsby; and she being married to Sir Thomas Ludlow, he, in right of being the owner of the manor, became Champion, and his grand-daughter and heiress, marrying Sir John Dymoke, conveyed Scrivelsby and the Championship into that family in the twenty-third year of King Edward III.

This remaining practice of a barbarous and warlike age has now ceased to be dignified or grave, in consequence of the great changes which the usages and feelings of society have undergone. The stability of the Crown would certainly not be impaired if this now absurd though once expressive ceremony were abolished, and another tenure substituted more consonant to common sense and the spirit of the age.

CHESTERFIELD CHURCH AND ITS CROOKED SPIRE.

Whoever approaches Chesterfield, either from the north or the south, must be struck with the singular appearance of the spire of its church, which, instead of being perpendicular, is evidently much bent towards the west. It is singular that almost every writer who has had occasion to mention Chesterfield has called this appearance an optical deception, arising from the twisted form of the leaden planes which cover its surface. Even Mr. Rickman, in his work on 'Gothic Architecture,' says,—"The *apparent* leaning of the

spire arises partly from the curious spiral mode of putting on the lead, and partly from a real inclination of the general lines of the wood-work of the spire." But had he walked out of the town to the eastward, or to the westward, he would have seen this crooked spire assume a perfectly perpendicular appearance, for in one case the bulging, and in the other the hollow part of the steeple would be towards him, and consequently the crookedness would be lost; or, had he ventured to mount the tower, and walk round the base of the spire, he would have seen on the south, or rather at the south-western angle, the ball at the summit almost vertical to his head, while on the opposite side the same ball would be hidden from the sight by the swelling of the middle of the spire. These observations would at once have proved the fact, that this curious steeple is not *apparently* but *really* crooked. To place its real crookedness beyond a doubt, the situation of the ball was subjected to a careful measurement some years since, when it was found to deviate from the perpendicular six feet towards the south, and four feet four inches towards the west, giving its greatest angle of inclination somewhere near to the south-west angle.

Chesterfield Church is a beautiful and spacious edifice. Its ground-plan is that of a single cross; and at the intersection of the two arms arises a well-proportioned and elegant square tower, surrounded by a plain simple parapet, bearing at each angle an octagonal pinnacle surmounted by a rod and weather-vane. On this tower is placed the spire, which, but for its crookedness, would be thought of very just proportions. It rises to the height of 230 feet, exclusive of the rod which bears the weathercock; and is built of timber, and covered with lead in such a manner as to divide each octagonal side into two distinct and channelled planes, giving it altogether a singular and, indeed, a unique appearance. Its dark colour, however, and the want of brackets to break the outline, add an appearance of heaviness to the general effect which is utterly at variance with the other parts of the building.

The interior of the church consists of a nave, two aisles, a transept, and chancel. Its length from east to west is 168 feet 9 inches, breadth of the body 59 feet 6 inches, and length of the transept from north to south 109 feet 6 inches. It has been newly paved, and is in every respect a very comfortable and commodious place of worship.

It is stated in the newspapers that, on Sunday evening the 8th of February, 1835, two churches in the neighbourhood of Huddersfield in Yorkshire were struck by lightning; that from one several stones were forced out of the spire, but that the spire of the other (Linthwaite Church) "was struck in such a manner, that, without any of the stones being shattered, *the spire was bent out of its perpendicular, and now inclines towards the church,* so that it is thought there will be a necessity for taking it down." This occurrence may throw some probable light on the manner in which Chesterfield spire was reduced to its present position, though no record can be found of any such event, and the long lapse of years in which it has appeared in the same state has thrown every tradition respecting it into oblivion.

Currency.—The word *raha*, which signifies money in the Esthonian language, has not yet lost its primitive acceptation with the Laplanders, amongst whom it designates skins or furs. Among the different kinds of money which formerly circulated in Russia was one which bore the name of *noguta.* The Esthonians, who were once comprised in the Russian Empire, use the word *nahat* for skins. The change of the vowel *a* into *o*, and the *h* aspirated into *g*, is so familiar in the Russian language that the word appears to be exactly the same in both. M. Krug, a member of the Academy of Sciences at St. Petersburgh, published, in 1805, a work containing curious researches on the circulating medium anciently in use in Russia. The most valuable furs were those of the squirrel, marten, beaver, sable, and ermine; they formed an important article of exportation, and they were in demand in all countries. The Khosars, the Varaigues, and, at a later period, the Mongols, raised in furs the taxes that they imposed on the Sclavonians and Russians when they were obliged to purchase a peace. Pecuniary fines were fixed in products of this nature; indeed they often served as a standard by which the price of their merchandise was determined. The value of furs was at that period much greater than they bear at present. In the time of Marco Polo,—*i. e.* in the thirteenth century,—a pelisse of sable could be sold in China for two thousand Byzantine ducats even in the sixteenth century, according to Paul Jovius (Paolo Giovio), it sometimes fetched one thousand ducats. But, notwithstanding the ancient Russians made use of furs in place of specie, the precious metals were not excluded from this function. In Abyssinia, the value of merchandise is determined by certain quantities of salt and pepper; in Newfoundland, by a certain quantity of dried cod-fish; in Virginia, by tobacco; in Iceland, by a woollen cloth called *rataul.* At Kiahta, pieces of nankin even yet sometimes serve for the purpose of determining the value of the goods which the Russians exchange with each other; and among the Greeks of the Lower Empire, silk stuffs often performed the same function. In India, the high price of metals, even of the common description, has occasioned little shells to be adopted for small change. These shells are the current money of Mogol, Bengal, and Boutan; also of the interior of Africa and of the Guinea coast. At the time when America was discovered, the Mexicans made use of the kernels of the cocoa-nut as money. (Translated from *Storch's Political Economy.*)

Anecdote of Barry the Painter.—While Barry was a young man, residing at Dublin, an incident occurred which strikingly illustrates the character of the man. He was brought into contact with some young persons of dissipated habits, who on several occasions enticed him to form one of their tavern parties. As he was returning home late at night from one of these carousals, he was struck by a sudden conviction of the folly of the course he was pursuing in thus wasting the time which might so much more properly be employed in laying the foundation of his future respectability and independence. Diffident perhaps of his own power of foregoing the gratifications which he had the means of purchasing, and certain that the most effectual preventive would be to rid himself of the means at once,—he took all his money, which was probably at that time no great sum, and threw it into the Liffey, and afterwards shut himself up with great perseverance to his professional studies.—*Life of Barry prefixed to his Works.*

Famine in London.—Walsingham gives the following strong picture of a famine in London in the reign of Edward II. "They [the king and peers] assembled at a Parliament in London, where no great matter was concluded, for the famine and pestilence increased. The famine was grown so terrible, that horses, dogs, yea, even men and children, were stolen for food, and (which is horrible to think) the thieves newly brought into the gaols were torn in pieces, and eaten presently by such as had been longer there. In London it was proclaimed that no corn should be converted to brewers' uses: which act the king (moved with compassion towards his nation) imitating, caused to be executed throughout the kingdom; otherwise the greater part of the people had died with penury of bread. The dysentery, caused through raw and corrupt humours, engendered by evil meat and unnatural diet, raged everywhere, and, together with other dreadful maladies, brought such multitudes of the poorer sort to their end, that the living could scarcely bury the dead."

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HOGARTH AND HIS WORKS.—No. XII.

THE ELECTION.—Plate III.



[The Polling.]

THE feasting and the canvassing were preliminary to the actual conflict to which we are now come. Our election scenes, which should have afforded to foreigners an example of popular rights exercised with that decency and sobriety which becomes England—the parent of free institutions—have often been such as to inspire them only with wonder and disgust. The circumstances attending an actual election have been greatly improved by recent legislative enactments. The limitation of the time of polling, and the multiplication of convenient places for receiving votes—as well as the previous registry—have taken away many of the scenes of riot and violence by which a poll was formerly disgraced. But the influence which perverts the suffrage still remains; corruption still often wins more than honesty.

This picture tells its own story with the usual effect of Hogarth's paintings. The parts of the booth appropriated to the rival candidates are denoted by their respective party colours. The persons elevated on chairs in each compartment would seem to be the chairmen of each candidate's committee, present at the booth to watch the proceedings. He who is the most remote does not appear to be pleased with the state of the poll, as his gesture betrays uneasiness or impatience. The other seems to be absorbed in contemplation, and does not notice the person on his right hand, who appears to be sketching his portrait. The uneasiness of the chairman is not the only circumstance that signifies the persons in the outer portion of the booth to be the losing party. They are hard driven for votes. A man who has lost the use of his limbs, and, as appears from his vacant stare, of his intellect also, is brought to the poll, and the suggestions or solicitations of the polling-clerk before him, who tenders the Testament, are assisted by a whisperer behind. This whisperer has manacles on his legs, and a paper appears in his pocket, inscribed as "The Sixth Letter to the People of England,"—circumstances which denote him as Dr. Shebbeare, who was pilloried and imprisoned two years for a libel against the king. Behind him is a freeholder who has just been brought to the poll from a sick or dying bed. He has the party favours in his nightcap; and it may be remarked, perhaps, as one of those minute touches in which Hogarth excels, that the features of one of this poor man's supporters are turned so as to furnish considerable resemblance to a death's head. How unhappy it is that such contests should ever be associated with circumstances which must divest even a victory of that true distinction which it ought to confer!

There is still a further circumstance to denote the extremities to which one of the parties seems driven. Their attending lawyer appears disputing with the lawyer of the other party the validity of a vote which is proffered to their clerk. The voter is a pensioner who has lost both his arms and one leg in the wars. He takes hold of the book with his iron-hook hand, and the point disputed between the rival barristers seems to be, whether an oath thus taken, without a real hand to hold the book, can be valid. This is certainly a severe satire on the legal quibbles by which gnats are so often strained at, while camels are swallowed without the least difficulty. The circumstance seems to the clerk, who holds the book while the voter is taking the oath, so irresistibly comic that he is constrained to lay his hand to his mouth to check his laughter. The whole scene is highly characteristic of the indifference with which the most solemn of human sanctions comes to be regarded when it has grown too familiar by excessive use. We rejoice greatly at the measures which have been lately taken, and are still in progress, for the purpose of doing away with unnecessary public oaths.

Among the subordinate circumstances of the scene we should not omit to notice the touch at the squibs which are so often circulated by the adverse parties at a contested election. We would hope that these, at least, have become more decent than they were in Hogarth's days: but even of this we do not feel quite certain. The character of that which the old ballad-woman is circulating is expressed by the figure which it exhibits of a man hanging from a gallows. A party of men in the booth are reading a copy of this paper with much apparent glee.

And what is the moral of all this? Hogarth himself tells us; and, for the sake of telling it with what he considered more of point and effect, he has introduced an allegory—a licence which has the countenance of great masters, but to which our artist never in any other instance resorted. In doing so here, he doubtless fell into a mistake of judgment; but, as he has dealt with it, he has made it point most expressively the moral he intended to convey. The coach of Britannia is broken down, while the servants play at cards on the coach-box; and amidst the excitement and the din of party contests, no one perceives her danger or hears her cries.

WILLIAM BILLINGS.

IN the churchyard of Longnor, a small market-town in the county of Stafford, there is a head-stone bearing the following inscription:—

"Billeted by Death, I quarter'd here remain,
And when the trumpet sounds, I'll rise and march again."

We quote this not for the sake of any point it contains,—for we have a decided objection to epitaphs of this description—but because we have to mention the person to whom it refers. The stone was erected, in the year 1794, by the subscriptions of some neighbouring gentlemen, to perpetuate the memory of a poor man who died in that year at Fairfield Head, in the parish of Alstonefield at the advanced age of 114 years.

This man, whose name was William Billings, was literally born under a hedge (not more than 100 yards from the cottage in which he died), in the year 1679. In his youth he was a farmer's servant; but preferring a life of enterprise to the quiet of domestic life, and being, perhaps, roused by the warlike spirit of the time, he quitted his situation in 1702, and, going to Derby, enlisted in a regiment then stationed in that town. This regiment afterwards formed part of the expedition which was sent, under the command of Sir George Rooke, against Gibraltar, which at that time belonged to the King of Spain. After Gibraltar was taken, Billings's regiment was sent into Flanders, and formed part of the army of Prince Eugene and the Duke of Marlborough. At the battle of Ramillies, in 1706, Billings had the honour of saving the life of the "great captain." The duke was thrown from his horse in leaping a ditch, and was nearly surrounded by a detached party of Marshal Villeroi's army, determined to take him either dead or alive; when Billings, observing the perilous situation of his commander, immediately brought to his relief a few of his comrades, who threw themselves between their general and the enemy, and succeeded in bringing him off in safety. But although Billings's intrepidity and presence of mind had saved the duke, he had himself the misfortune to receive, during the skirmish, a musket-ball in the thick part of his thigh, which the surgeons were unable to extract. About thirty years after this affair, however, it worked itself downward, and eventually came out underneath his ham. With that sort of attachment with which men regard things to which they have been long accustomed, even though these things have been the instruments of pain, Billings carefully preserved, to

the day of his death, this "French cherry," as he jocularly called the ball.

Billings was at the siege of Ostend in 1706; and, so far as the circumscribed sphere of a private soldier admitted, he seems to have distinguished himself by his gallantry and courage. But the correspondent who furnishes the facts of this narrative does not consider that there was any higher motive to exertion than the plunder and animal indulgences which a victory usually ensured to the conquerors. This made the life of a soldier a most happy one to him at that time. No doubt, he was not singular in these feelings. After having had his due share in the several actions of that memorable war, Billings returned to England in 1712, with the safe possession of all his limbs. In 1715 he served against the rebels; and, in 1745, he was with the Duke of Cumberland at Preston Pans and Culloden.

After having spent in the army three-quarters of a century, and that principally in foreign lands, it might have been expected that some provision would have been made for him: but it was not so. He had never received any promotion; and, on his discharge, no pension was allotted to him. We have no information on the subject; but certainly this would leave room for the suspicion that his conduct had not always been satisfactory to his superiors. The old man was, however, during his remaining days, preserved from entire destitution by the charity of his neighbours. The great age at which he died indicates the excellence of his constitution. From his birth to his death, he never experienced a day's illness; and his final passage from life was perfectly tranquil.

MUSCULAR STRENGTH OF MAN AS AFFECTED BY DIET.

A series of experiments has lately been made in France with a view of determining the effect of gelatine as an article of diet; in the course of which, as we learn from a paper read at the Academy of the Arts and Sciences, Paris, the following results were obtained. It must be observed that gelatine is the jelly extracted from animal substances by boiling them in water; and M. Edwards, by whom the experiments alluded to were made, considers isinglass as pure gelatine: but it was ascertained that, though highly nutritious under certain circumstances, it resembled bread and some other articles in being unable to sustain life by itself alone. Bread and gelatine together form a nutritious aliment, but they are insufficient to sustain the vigour of the body in a proper manner. When, however, gelatine is flavoured by the sapid and odorous parts of meat, it then possesses highly nutritive qualities, and not only fully sustains the animal powers, but occasions their greater development. In the course of his experiments, M. Edwards availed himself of the dynamometer, a little instrument probably consisting of a steel-spring coiled into a spiral, which, if pressed upon with all the force a person possesses, becomes compressed: the degree to which this is effected being pointed out by an index. It was ascertained in this manner that, during the first half of the day, the muscular strength is continually increasing, while, during the other half, it is progressively diminishing; and that this development of the bodily powers was the natural process of the animal system. Another series of experiments was tried with a view of estimating the muscular force immediately before breakfast, and immediately after that meal. The mean result of eight days' trial upon the same individual was as follows:—$78\frac{5}{10}$ degrees before breakfast, and 80 [illegible] degrees immediately after it. The meal consisted of a cup of chocolate and a small loaf. On the same individual taking, during three successive mornings, a similar quantity of water instead of chocolate, it was found that a diminution of two degrees was occasioned by the alteration. On sugar being added to the water, the effect was the same, though not quite so decided. The chocolate, prepared with sugar, and the customary quantity of water, was now substituted, which created an additional degree of strength, amounting to $3\frac{7}{10}$ degs. The chocolate and bread were therefore the sole nutritious properties of the meal. Common broth was next adopted as a diet; and first the effects of warmth were ascertained distinct from that of the broth itself. Eight ounces of water were drunk at a temperature of 104° Fahrenheit, the ordinary temperature at which broth is taken. The dynamometer showed that the muscular power had been diminished $3\frac{4}{10}$ degs. by the heat, in addition to that produced by the water simply. The effect of good broth, even at this temperature, was found to increase the force of the body six or eight degrees. The general conclusions established by these experiments are, that the muscular force of strong men is increased after a moderate and wholesome meal; on the contrary, persons who are weak from illness, old age, or youth, or by their sex, lose strength directly after a meal. This elevation or depression of the powers immediately after taking food must be distinguished from the subsequent effect of the digestion,—an operation which concentrates the bodily energy towards the stomach, and, consequently, counterbalances the previous effect. The dynamometer indicates the difference between these opposed forces: this difference is less among weak than among strong persons. In an experiment on the inmates of one of the Paris hospitals, it was ascertained that soup composed of gelatine, instead of diminishing the strength of weak persons as the whole meal does, gave an increase to the men of two degrees, and to the women of three: and, by using a double quantity of gelatine (4 oz.), a further increase of strength was afforded.

MR. JOHN LOMBE, AND THE SILK-THROWING MACHINERY AT DERBY.

The Lombes were originally manufacturers at Norwich; but removed to London, and became silk-throwsters and merchants there. There were three brothers, Thomas, Henry, and John; the first was one of the sheriffs of London at the accession of George II. in 1727, on which occasion, according to custom, the chief magistrate was created a baronet, and Mr. Lombe was knighted. The second brother, who was of a melancholy temperament, put an end to his existence before those plans were developed which connected the name of Lombe with one of the most important manufactures of the country.

The Messrs. Lombes had a house at Leghorn under the firm of Glover and Unwin, who were their agents for purchasing the raw silk which the Italian peasantry sold at their markets and fairs to the merchants and factors. There were many other English houses at Leghorn, Turin, Ancona, and other parts of Italy, chiefly for exporting silk to England, in part return for which numerous cargoes of salt-fish were, and still are, received from our ports for the consumption of the Italians during their Lent and other fasts. It was at that time customary for the English merchants engaged in the Italian trade to send their apprentices and sons to the Italian ports, to complete their mercantile education by acquainting themselves on the spot with the details of their peculiar line of business. It was professedly in compliance with this custom, but with a deeper ulterior view, *that the youngest of the* brothers, Mr. John Lombe, who at that time was little more than twenty years of age, proceeded to Leghorn in the year 1715.

The Italians had at that time become so much superior to the English in the art of throwing silk, in consequence of a new invention, that it was impossible for the latter to bring the article into the market on equal terms. This state of the trade induced the Lombes to consider by what means they might secure the same advantage which their improved machinery gave to the Italians: and the real view of the younger brother in proceeding to Italy was, to endeavour to obtain such an acquaintance with the machinery as might enable him to introduce it into this country. The difficulties in the way of this undertaking were very great, and would have appeared insurmountable to any but a person of extraordinary courage and perseverance.



[Sir Thomas Lombe's Silk-mill, Derby.]

We find these difficulties thus stated in the paper which Sir Thomas Lombe printed for distribution among the members, when he applied to Parliament for the renewal of his patent. One, at least, of these printed papers has been preserved, and has been lent us for the present occasion. It is there said that,—"The Italians having, by the most judicious and proper rules and regulations, advanced and supported the credit of the manufacture, have also, by the most severe laws, preserved the mystery among themselves for a great number of years to their inestimable advantage. As, for instance, the punishment prescribed by one of their laws, for those who discover, or attempt to discover, anything relating to this art, is death, with the forfeiture of all their goods, and to be afterwards painted on the outside of the prison walls, hanging to the gallows by one foot, with an inscription denoting the name and crime of the person; there to be continued for a perpetual mark of infamy."

The young Lombe, however, was not to be deterred by the danger and difficulty of the enterprise. On his arrival, and before he became known in the country, he went, accompanied by a friend, to see the Italian silk-works. This was permitted under very rigid limitations: no person was admitted except when the machinery was in action, and even then he was hurried through the rooms with the most jealous precaution. The celerity of the machinery rendered it impossible for Mr Lombe to comprehend all the dependencies and first springs of so extensive and complicated a work. He went with different persons in various habits, as a gentleman, a priest, or a lady; and he was very generous with his money; but he could never find an opportunity of seeing the machinery put in motion, or of giving to it that careful attention which his object required. Despairing of obtaining adequate information from such cursory inspection as he was thus enabled to give, he bethought himself of associating with the clergy, and, being a man of letters, he succeeded in ingratiating himself with the priest who confessed the family to which the works belonged. He seems to have opened his plans, partly at least to this person, and it is certain that he found means to obtain his co-operation. According to the scheme which they planned between them, Mr. Lombe disguised himself as a poor youth in want of employment. The priest then introduced him to the directors of the works, and gave him a good character for honesty and diligence, and described him as inured to greater hardships than might be expected from his appearance. He was accordingly engaged as a fillatoe-boy, to superintend a spinning-engine so called. His mean appearance procured him accommodation in the place which his design made the most acceptable to him,—the mill. While others slept, he was awake and diligently employed in his arduous and dangerous undertaking. He had possessed himself of a dark lantern, tinder-box, wax-candles, and a case of mathematical instruments. In the day-time these were secreted in the hole under the stairs where he used to sleep; and no person ever indicated the least curiosity to ascertain the extent of the possessions of so mean a lad. He thus went on making drawings of every part of this grand and useful machinery; the priest often inquired after his poor boy at the works, and, through his agency, Lombe conveyed his drawings to Glover and Unwins; with them models were made from the drawings, and dispatched to England piecemeal in bales of silk. These originals are still, we believe, preserved in the Derby mills.

After Lombe had completed his design he still remained at the mill, waiting until an English ship should be on the point of sailing for England. When this happened, he left the works and hastened on board. But meanwhile his absence had occasioned suspicion, and an Italian brig was dispatched in pursuit; but the English vessel happily proved the better sailer of the two, and escaped. It is said that the priest was put to the torture: but the correspondent of the 'Gentleman's Magazine,' to which we are indebted for most of the facts we have stated, says that, after Mr. Lombe's

return to England, an Italian priest was much in his company; and he is of opinion that this was either the priest in question, or, at least, another confederate in the same affair. Mr. Lombe also brought over with him two natives accustomed to the manufacture for the sake of introducing which he had incurred so much hazard.

After his return, Mr. John Lombe appears to have actively exerted himself in forwarding the works undertaken by him and his brother, Sir Thomas, at Derby; but he did not live to witness their completion. He died on the premises, on the 16th of November, 1722, in the twenty-ninth year of his age. The common account of his death is, that the Italians, exasperated at the injury done to their trade, sent over to England an artful woman, who associated with the parties in the character of a friend; and, having gained over one of the natives who originally accompanied Mr. Lombe, administered a poison to him of which he ultimately died.

We recur to Sir Thomas Lombe's statement, already noted, for the most authentic particulars respecting the progress of the work. The document itself is entitled, 'A brief state of the Case relating to the Machine erected at Derby, for making Italian Organzine Silk, which was discovered and brought into England with the utmost difficulty and hazard, and at the sole expense of Sir Thomas Lombe.' It commences with stating the capabilities of the machine. "This machine performs the work of making Italian organzine silk, which is a manufacture made out of fine raw silk, by reducing it to a hard-twisted, fine, and even thread. This silk makes the warp, and is absolutely necessary to mix with and cover the Turkey and other coarser silks thrown here, which are used for shute,—so that without a constant supply of this fine Italian organzine silk, very little of the said Turkey and other silks could be used, nor could the silk-weaving trade be carried on in England. This Italian organzine (or thrown) silk has in all times past been bought with our money, ready made (or worked) in Italy, for want of the art of making it here. Whereas now, by working it ourselves out of fine Italian raw silk, the nation saves nearly one-third part;—and, by what we make out of fine China raw silk, above one-half of the price we pay for it ready worked in Italy." The paper goes on to state that,—"The machine at Derby has 97,746 wheels, movements, and individual parts (which work day and night), all which receive their motion from one large water-wheel, and are governed by one regulator: and it employs 300 persons to attend and supply it with work." After stating the difficulties which had been surmounted in introducing this improvement, the paper thus concludes:—"Upon the introduction of which [this improvement], his late most gracious Majesty granted a patent to the said Sir Thomas Lombe, for the sole making and use of the said engines in England, for the term of fourteen years. Upon which he set about the work, and raised a large pile of building upon the river Derwent at Derby, and therein erected the said machine; but before the whole could be completed several years of the said term were expired. Then the King of Sardinia, in whose country we buy the greater part of our supply of organzine silk, being informed of his success, prohibited the exportation of Piedmontese raw silk; so that before the said Sir Thomas Lombe could provide a full supply of other raw silk proper for his purpose, alter his engine, train up a sufficient number of work-folk, and bring the manufacture to perfection, almost the whole of the said fourteen years were run out. Therefore, as he has not hitherto received the intended benefit of the aforesaid patent, and in consideration of the extraordinary nature of his undertaking, the very great expense, hazard, and difficulty he has undergone, as well as the advantage he has hereby procured to the nation at his own expense; the said Sir Thomas Lombe humbly hopes the Parliament will grant him a further term for the sole making and using his engines, or such other recompense as in their great wisdom shall seem meet."

The Parliament, considering the matter of much public importance, thought it best to give him a grant of 14,000*l.* on condition that the invention should be thrown open to the trade, and that a model of the machine should be deposited in the Tower of London for public inspection. It is commonly stated that Parliament refused to extend the patent, and granted the money to soften their refusal; but we have seen that Sir Thomas himself suggested some "other recompense" than an extended patent, as an alternative. In the course of time similar mills began to be erected in different parts of the country; but, in consequence of the difficulties that were experienced in procuring Italian raw silk of the proper size for organzine (the exportation of which was prohibited by the Italians), and also because the mills happened subsequently to find employment for other purposes, the quantity worked into organzine in this country bore, for many years, no proportion to the imports from Italy. The manufacture has, however, been since revived and improved, in consequence of which it is now carried on to a very considerable extent, not only in Derby but in other parts of the country.

The mill erected by Sir Thomas Lombe stands upon an island, or rather swamp, in the Derwent, about 500 feet long and 52 wide. The building stands upon huge piles of oak, double planked, and covered with stone-work, on which are turned thirteen stone arches that sustain the walls. Its length is 110 feet, its breadth 39, and its height 55 feet. It contains five stories. In the three upper are the Italian winding engines, which are placed in a regular manner across the apartments, and furnished with many thousand swifts and spindles, and engines for working them. In the two lower floors are the spinning and twist mills, which are all of a circular form, and are turned by upright shafts passing through their centres, and communicating with shafts from the water-wheel. The spinning-mills are eight in number, and give motion to upwards of 25,000 reel-bobbins, and nearly 3000 star-wheels belonging to the reels. Each of the four twist-mills contains four rounds of spindles, about 389 of which are connected with each mill, as well as numerous reels, bobbins, star-wheels, &c. The whole of this elaborate machine, though distributed through so many apartments, is put in motion by a single water-wheel twenty-three feet in diameter, situated on the west side of the building. All the operations, from winding the raw silk to organizing, or preparing it for the weavers, are performed here. The raw silk is chiefly brought in skeins or hanks from China and Piedmont. The skein is, in the first instance, placed on a hexagonal wheel or swift, and the filaments which compose it are regularly wound off upon a small cylindrical block of wood or bobbin. It is the work of five or six days to wind a single skein, though the machine be kept in motion for ten hours daily, on account of the amazing fineness of the filaments of which it consists. The silk, when thus wound off upon the bobbins, is afterwards twisted by other parts of the machinery, and is then sent to the *doublers*, who are chiefly women stationed in a detached building. Here four, seven, or ten threads are twisted into one, according to its intended size; the fine kind going to the stocking-weavers, and the others to different manufacturers. Other mills, erected more recently at Derby on a similar principle, greatly surpass this in their machinery and efficiency; but the old mill must continue to be regarded with peculiar interest as the first establishment of the kind erected in this country.

TIME.

The object of this paper is to enable our readers to look into an almanac with a definite notion of what they are to expect to find in such works. Almanacs are now penny brethren, and deserve at least a pennyworth of consideration.

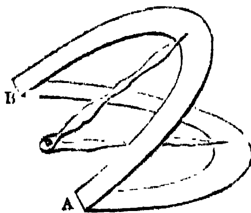
The ancients believed in an immense crystal sphere, which turned all the stars round the earth. If there were such a sphere, but stationary, and if the hours of the day were properly marked upon it, a single star might serve the purpose of a clock to all the inhabited world. The heavens are in truth a clock, but not upon so simple a principle; there are no hours and minutes marked. Now if we suppose the hours and minutes rubbed off the face of a watch, while the hands perform their revolution as usual, we shall have something similar. We shall see *phænomena*, that is, the hands will come together and separate; but we need an almanac for such a watch to tell us how the time is to be inferred from the position of the hands. The difficulty of such an undertaking is precisely that of one branch of astronomy, and to it we shall first proceed.

Fig. 1.

We begin our reckoning from some time when the minute and hour-hand are, as we should say of two planets, *in conjunction*, as at A in fig. 1. We agree to divide the intervals which elapse before conjunction again takes place at the same spot, into twelve parts called hours, each hour into sixty parts called minutes, &c. And the *law* of the motion is supposed to be that the minute-hand moves round twelve times while the hour-hand moves round once, or moves, *angularly*, twelve times as fast as the hour-hand. The question now is, when will the next *conjunction*, that at B, take place? The answer is roughly, as every one knows, in about an hour and five minutes. But this cannot be exact; for while the minute-hand goes over five minutes, the hour-hand has described a twelfth of five minutes; while the minute-hand is making up the twelfth of five minutes, the hour-hand describes the hundred and forty-fourth part of five minutes; and so on for ever. In this way of considering the subject we shall not arrive at any result; but, returning to the hands of the watch, we can find the interval between two conjunctions as follows. In the twelve hours which elapse between a conjunction at A, and the same again, the minute-hand will be on the hour-hand eleven times, reckoning the last time at which conjunction again takes place at A. That is, there are eleven of the periods of which we are in search contained in twelve hours. Each is therefore the eleventh part of twelve hours, or one hour and the eleventh of an hour, or one hour, five minutes, and five elevenths of a minute.

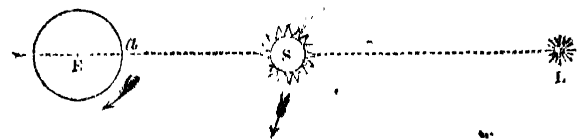
Time is reckoned only by the appearances of the heavens, without reference to whether they are caused by the motions of the heavenly bodies, or by that of the earth, or by both together. To these appearances then we confine ourselves.

By the following explanation it may be shown why the interval between new moon and new moon is greater than that which the moon takes to move completely round. Let the spectator be on the earth at E, let the sun move round in the paper from S to T, &c., (which is the appearance presented,) and let the moon move round in the direction M N. In the meanwhile the spectator is carried round with the earth, and the sun and moon are both alternately seen and hidden, which has nothing to do with the conjunctions of the sun and moon we are now considering, except that they will appear at one time of the day or another as the case may be, and that this day, made by the earth's motion, is a convenient measuring unit for the month of the moon's revolution, or the year of the sun's. Also the moon must not be supposed to be in the paper, but above or below it, which is as if the hour-hand of the watch moved on one face, and the minute-hand on another, as in the following diagram. The conjunctions are still said to take place when one hand is directly over the other.



Supposing the earth to be in the centre, the hour-hand to point to the sun, and the minute-hand to the moon, new moons take place when the minute-hand is over or under the hour-hand; and eclipses of the sun when the hour-hand and minute-hand are together at A or B, or the moon hides the sun from the earth; while eclipses of the moon take place when one hand points to A and the other to B, or the earth hides the moon from the sun. Now, supposing, which is nearly the case, that the moon makes thirteen revolutions from M to M again, while the sun makes one from S to S, which amounts to supposing the hour-plate to go to thirteen hours instead of twelve, and the hour-hand to move one-thirteenth as fast as the minute-hand, it will appear that the whole year (which is thirteen complete lunar revolutions) will contain *twelve* complete intervals between new moon and new moon, and therefore the *lunar month* (a period from new moon to new moon) will be the twelfth part of thirteen lunar revolutions, or the month will exceed the lunar revolution by about the twelfth part of the latter.

The moon is not used as a measure of time among any of the European nations. The measures of time amongst us are, the stars, the sun, and an imaginary sun, which completes a whole year in the same time as the real sun, moving at an average rate, whereas the real sun varies its motion. Time derived from the stars is called *sidereal* time (*sidus*, a constellation); time derived from the sun, *solar* time (*sol*, the sun). Time from the real sun is called *apparent* solar time; from the imaginary sun, average or *mean* solar time. And the time which a common clock is made to give is always mean solar time; while that of the clocks used in observatories is generally sidereal time. Apparent solar time is what the sailor gets at sea from the sun itself, or the landsman from a sun-dial. We now proceed to explain these terms. For our present purpose it matters not whether the earth be a globe turning on its axis, or a cylinder turning on its axis, or even a circle turning round on its centre. All the necessary ideas are conveyed in that of turning uniformly, to which we shall therefore confine ourselves.

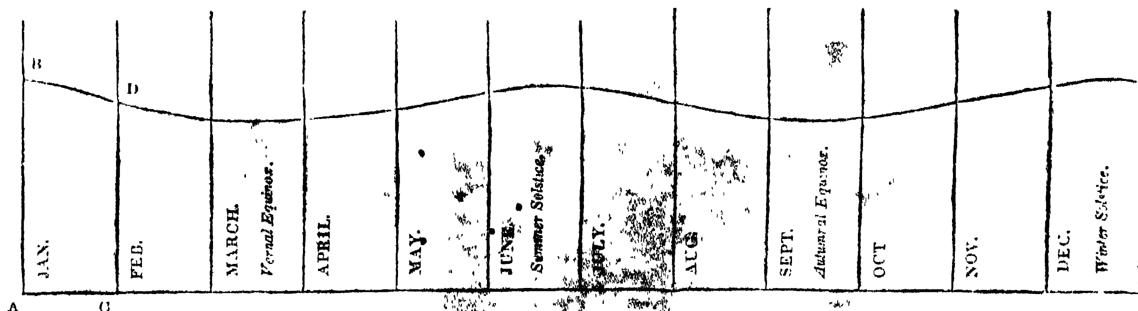


Let the circle, representing the earth, turn uniformly round its centre E, and let us suppose the spectator to be at *a*; L is a star which remains fixed, and S is the sun, to all appearance moving round the earth in the same direction as that in which the earth moves round its axis. It is evident that the spectator will not come again to the star until the earth has made a whole revolution; that is, will not come to have the star in the

same position relatively to himself. For the star is fixed, and neither more nor less than one revolution of the earth will suffice for this purpose. Hence the absolute time of the earth's revolution is the *star-day*, or *sidereal* day; it is called twenty-four hours of *sidereal* time, each hour being divided into sixty sidereal minutes, each minute into sixty sidereal seconds. But sidereal minutes and sidereal seconds are not exactly those of the clock.

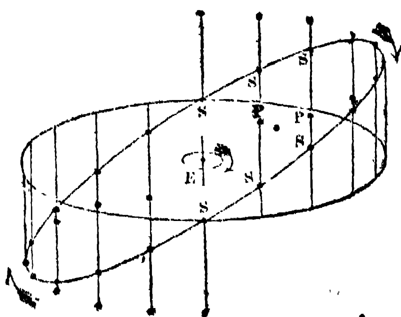
Now let us consider the real sun. When the spectator has recovered his position with respect to the star, he will not have recovered that with respect to the sun, any more than the minute-hand at one o'clock will have recovered the position with respect to the hour-hand which it had at twelve, and for a similar reason. The hour-hand has moved on, the sun has moved on; the minute-hand must overtake the hour-hand, the spectator must overtake the sun. Hence the *apparent solar day* is somewhat longer than the sidereal day: and if we suppose the apparent solar day to be divided into twenty-four apparent solar hours, &c., the apparent solar hour will always be somewhat longer than the sidereal hour, &c.

But we cannot settle how much longer an apparent solar is than a sidereal day, without asking of what day we mean to speak. For the sun moves sometimes quicker, sometimes slower; that is, the earth is sometimes a longer, sometimes a shorter time, in making up for the advance of the sun. To put this under the eye, we have constructed the following diagram:—



The proportional rates at which the sun moves in *right ascension* (presently to be explained) on different days, are represented by the upright lines. Thus, on the 1st of January he is moving more rapidly than on the 1st of February, in the proportion of the line A B to C D; and so on. But the apparent *motion in right ascension* explanation.

If, in the last diagram but one, we stick a pin into the paper at L and S, L and S might move up and down that pin without altering their respective days; the spectator would call them both on his meridian when he is at *a*, but would imagine them to come on the meridian at different parts of it. To alter the day, S must make some motion round the paper. Now suppose the pin to be carried round the paper, always upright, and S to move up and down the pin while the latter moves round. Also conceive the pin to be extended underneath the paper, as in the following diagram:—



Let the spectator be carried round an axis at E, while S moves on the pin, and the pin itself is carried round S P P, &c., so that S describes the curve S S S, &c. Let S be carried nearly uniformly along S S S, which is the case of the sun's apparent motion, for it is not the small irregularity of the sun's motion which is the most effective cause of the difference between one apparent day and another. That day, as we have described it, dates from the time when the spectator is directly between his own axis and the pin on which S is, which represents the sun on the meridian; and while, if the pin remained steady, the day would be a sidereal day, it becomes a longer day in consequence of the motion of the pin, as before described. Now if the sun move uniformly along S S, &c. the bottom of the pin cannot move uniformly along S P P, because S is at some times moving more obliquely than at others. Thus, at the two *equinoxes*, that is, at the two points where S S, &c., cuts P P, a great part of the motion of S is caused by the rise or fall upon the pin, and the rest by the motion of the pin. But at the two *solstices*, or highest and lowest points of S S, the motion up or down the pin is inconsiderable, and nearly the whole change of place of S is caused by the latter. The motion of the pin (the sun's motion in right ascension) is least about the equinoxes and greatest about the solstices, as will appear on looking at the last diagram *but one*.

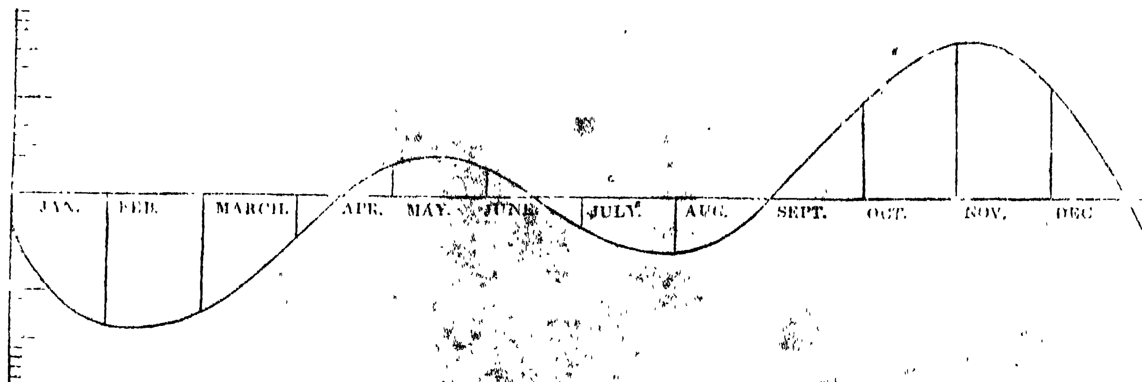
The irregular motion of the sun sometimes aids, and sometimes counteracts, as far as it goes, the effect of the obliquity of the ecliptic S S S, &c., making the above not exactly, but only nearly true.

The apparent solar day is therefore different for different days. It is the interval between two successive appearances of the sun on the meridian, and, divided into twenty-four hours, is shown as long as the sun shines, on a sun-dial. Now, clocks are constructed to go uniformly, and therefore cannot show the difference between one apparent day and another. But if a clock be made to go through twenty-four hours in an average day, and is set to noon with the dial on any particular day, it will be at noon with the dial again on the same day next year, and in the interval will have been *sometimes* before and sometimes behind the dial. The clock will keep time with an imaginary sun, which moves, not in the ecliptic, S S S, but in the equator S P P; and which also moves uniformly with the average motion in right ascension of the real sun. This imaginary sun, always gaining the same every day on the stars, will give a mean solar day, always of the same length, and a little longer than the sidereal day. We may now consider the rotation of the earth round its axis as analogous to that of the minute-hand, the rotation of the imaginary sun to that of the hour-hand, and the fixed stars to the hours and minutes marked on the plate, as follows:—

Phenomena of the Watch.	Phenomena of the Imaginary Sun, &c.
The minute-hand moves from XII to XII again in one hour. All hours are of the same length.	A point on the earth revolves from under a star to under the same star again in one sidereal day. All sidereal days are of the same length.
The minute-hand revolves from hour-hand to hour-hand, in a period without a name.	A point on the earth revolves from under the imaginary sun to under the imaginary sun again

Phenomena of the Watch.	Phenomena of the Imaginary Sun, &c.
All these periods are of the same length, and longer than an hour.	in a mean solar day. All mean solar days are of the same length, and longer than a sidereal day.
The complete rotation of the hour-hand takes place in twelve hours exactly, containing eleven periods as above. One hour is cut up in making twelve hours into eleven periods. Hence a period exceeds an hour by the eleventh part of an hour, or 5 $\frac{5}{11}$ minutes.	The complete revolution of the mean sun takes place in 366 sidereal days nearly, containing 365 mean solar days nearly. One sidereal day is cut up in making 366 sidereal days into 365 solar days. Hence a mean solar day exceeds a sidereal day by about the 365th part of a sidereal day, or about four sidereal minutes.

Hence the reason why the stars come on the meridian by about four minutes earlier every day, *the reckoning being by the sun.* We now return to the mean and real sun. It appears that the time denoted by these two varies on two accounts; first, because the real sun moves obliquely to the equator, so that the point directly under it does not move uniformly along the equator, even though the real sun should move uniformly in the ecliptic; secondly, because the real sun does not move uniformly even in the ecliptic. These two effects sometimes counterbalance each other as far as they go, sometimes exactly counterbalance, and sometimes aid each other. Their united effect is to make the clock and dial tell a different story every day in the year, four only excepted. The difference between the times of twelve at noon as shown by the two, is called the *equation of time*, and may be represented as follows:—

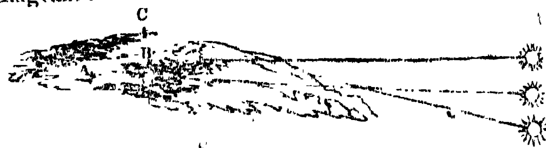


On the horizontal line days are measured, perpendicular to which is a scale representing minutes. The curve is so drawn that the perpendicular distance from the point indicating a day to the curve, shall always represent the number of minutes by which the dial is faster or slower than the clock. Thus, on the 1st of January the dial is about three minutes too slow, or the noon of apparent time is about three minutes after the noon of mean time. On the 1st of May the dial is about three minutes too fast, or the noon of apparent time is three minutes before that of mean time.

In most almanacs, a few years ago, all the phenomena were given in apparent time, which though useful enough at sea, where the real sun must be the guide, was not so convenient for landsmen, who are much better acquainted with the representative of the imaginary sun known by the name of a clock or watch. Thus, those who consult the 'British Almanac,' or any other of those published by the Society for the Diffusion of Useful Knowledge, and those who use 'Moore's Almanac,' are reckoning in two different sorts of time, the first giving clock-time, the second dial-time. Thus, according to the 'British Almanac,' on the 1st of November the sun rises at fifty-four minutes after six; according to Moore, it rises at eleven minutes after seven; or, the time of 'Moore's Almanac' is seventeen minutes fast. But both almanacs agree in stating that on the 1st of November the dial is sixteen minutes fifteen seconds fast. The neglect of odd seconds in the computation accounts for the rest of the difference.

We can imagine various cases arising in which this discrepancy between the almanacs may cause confusion. For instance, a master who uses the 'British Almanac' makes an agreement with his workmen to be at their posts by sunrise. The 1st of November is (which may happen) a misty morning, and the workmen look to their almanacs for the time of sunrise. Knowing and caring nothing about the equation of time, those who use 'Moore's Almanac' think they are very punctual if they are at their work by five minutes after seven, since the almanac says eleven minutes after seven. But the master counts upon their being there at fifty-four minutes after six at least. Those who use the 'British Almanac,' or any other which uses mean time, *are always right by the clock:* and *in the courts of law in England it is the clock which is always appealed to in questions of time.* Those who use 'Moore's Almanac,' or any other which has apparent time, must proceed as follows. Look at the equation of time (p. 84); and opposite to the day in question are minutes and seconds, either with fa. (fast) or slo. (slow) above them. Add to the almanac time for fa., take away from the almanac time for slo. (Take the nearest day, as every odd day is given, and the nearest minute, not minding the seconds.) Thus, to find the time of sun-rise on the 12th of December—'Moore's Almanac' says, eight hours and five minutes, or five minutes after eight. In the equation of time we find for the 11th, six minutes forty-three seconds; for the 13th, five minutes fourteen seconds, both slo. Take six minutes for the 12th. Then the sun rises at six minutes before five minutes after eight, that is at fifty-nine minutes after seven, which is the time marked in the 'British Almanac.'

The time of sun-rise is not a very precise astronomical phenomenon. It means the time of sun-rise where the horizon is quite level, as at sea; but independently of variations in the refraction, a spectator situated in a valley will see the sun rise later, and one on an eminence sooner, than one where the horizon is on the level of his eye. This is evident in the following diagram:—



The lines, in which the spectators at A, B, and C, will first see the sun, are drawn; and it is evident that the time will vary with the ground they are upon.

*** The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

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THE COLLIERIES.—No. I.



[South Hetton Colliery.]

Notwithstanding the variety and abundance of the productions which nature offers for our use in this country, and which we have with so much enterprize and skill made subservient to our comfort and wealth, they would have been of comparatively little utility to us at the present time, if we had been deprived of that one by which alone we obtain from others their most valuable properties. Without coal, in what manner could we now carry on our vast operations in every department of industry? In what way could we employ hundreds and thousands of our large population in fashioning those implements which so effectively aid us in extending our domain over the natural world? It is true that this mineral was not extensively used at a period when our manufactories were not altogether unimportant, although of very trifling extent when compared with the enlarged scale on which they are at present conducted; but, in those times, the woods which were spread over the country had not yielded to the encroachments of an increasing population; and as long as they existed, the fuel which they furnished was obtained at a cheaper rate than coal, which could only be extracted by the union of considerable capital and skill. In the mention which early writers make of our iron-works, fears are generally expressed respecting the decay into which it was imagined they must gradually fall by the disappearance of the native forests. These old smelting-works necessarily existed on a confined scale. It is not a hundred years since the iron ore in the Staffordshire mining district was carried, by a train of pack-horses from the pits, to be smelted. The employment of coal in the process of smelting was then unknown; and its successful application was a great relief to those whose fears had led them to regard the native iron-trade as doomed to extinction. While the forests flourished, it would have been altogether unprofitable to resort to an expensive mode of procuring fuel from the bowels of the earth, even if there had existed a sufficient amount of mechanical skill to have done so in any extensive manner. The moment when, by agricultural improvements and the successive clearing of the land, wood became scarce, the question was soon decided as to the advantage of making the necessary exertion to obtain coal.

It is not clear at what precise period this necessity sprung up. It is argued that the Romans continued unacquainted, if not with the existence of coal, at least with its useful properties, during the four centuries in which they held this country in their possession; and this opinion is maintained on the ground that no word is found for coal in the Latin language, although *carbo*, for charcoal, is not unfrequently met with. The use of coal was, however, well known to our Saxon ancestors, although its consumption was limited by the

causes to which we have alluded; and it is not improbable that at the same period several of the northern nations were equally familiar with its properties. Several terms in use among miners in England, Germany, and other countries of the north, have a striking resemblance to each other. The French word for coal is *houille*, which is very similar to the Saxon word *hulla*, although its more frequent designation in France is *charbon de terre*, or charcoal of the earth. The name by which coal is designated in Germany is *steinkohlen*, or stone-coal; by the Dutch it is called *steenkoolen*; by the Danes *steenkull*; by the Swedes *stenkol*. The Italians and Spaniards, having no familiar term for coal, employ a modification of its scientific name, *carbo fossilis*.

The progress which England made in the first 200 years after the Conquest prepared the way for the introduction of coal as an article of commerce. In the year 1239 Henry III. granted a charter for digging coal. Forty years afterwards Newcastle was celebrated for its coal-trade. In 1306 its use was prohibited in London, on account of the supposed effect which it had in rendering the air impure and unwholesome. But this prejudice was either soon dissipated, or the cheapness and excellence of the material, as an article of fuel, became so apparent, that the prohibition was not very effective, and probably was soon abolished. In 1325 coal was exported to France. In 1379 a duty of 6*d*. per ton was charged on ships coming to London from Newcastle with coals. At this period, also, a duty was levied on such ships by the Corporation of Newcastle, on their clearing out at that port. In 1384 Richard II., out of regard and reverence to the tutelary saint of Durham, exempted the coal-owners of the Wear from the above corporation duty. Pope Pius II. visited this island previous to his elevation to the papal chair, during the former part of the fifteenth century; and he remarked that the poor of Scotland received for alms pieces of stone which they burnt instead of wood. The earliest mention of coal-mines being worked in Scotland occurs in a charter granted in 1291 to the monks of Dunfermline, conferring upon them the privilege of digging for coal in the neighbourhood of their monastery. In the sixteenth century "sea-coal" was the general term applied to this mineral, which proves (as there were inland collieries worked at the time), that the state of the roads and means of communication were so imperfect, that the quantity which they furnished was trifling, and that the market depended almost entirely on the supply of sea-borne coals.

Two hundred and sixty years ago, Camden, who travelled in various parts of England, previous to the publication of his 'Britannia,' said in that work, when speaking of the now active district of North Staffordshire,—'The north part of Staffordshire hath coles digged out of the earth, and mines of iron. But whether more for their commoditie or hinderance I leave others to determine who doe or shall better understand it.' It will be curious to contrast the commercial importance of our mines at the present day with their state in the sixteenth century; and when we arrive at this part of the subject, the opinion of Camden may be referred to with some interest.

England is by far the richest country in the world as it respects her coal-mines. They have been the source of greater wealth to her than ever the gold mines of Peru were to Spain, because they are a means whereby man obtains a direct increase of power over materials which minister to his comfort. If he knows not how to use these materials, he remains in a state of comparative barbarism; or if he possesses that imperfect skill which only enables him to effect this in an inefficient and expensive manner, he cannot, under certain circumstances, rise above a state of comparative poverty.

The different coal districts of England and Wales are arranged in the following manner by Messrs. Conybeare and Phillips:—

1. *Coal district north of Trent*, or grand Penine chain.—1. Northumberland and Durham; 2. North of Yorkshire; 3. South York, Nottingham, and Derby; 4. South of Derby; 5. North Stafford; 6. South Lancashire; 7. North Lancashire; 8. Cumberland and Whitehaven; 9. Foot of Crossfell.

2. *Central Coal district*.—1. Ashby de la Zouch, 2. Warwickshire; 3. South Stafford or Dudley, 4. Indications near the Lickey Hill, &c.

3. *Western Coal district*, divided into, 1. *North Western* or *North Welch*.—1. Isle of Anglesea; 2. Flintshire.

4. *Middle Western or Shropshire*.—1. Plain of Shrewsbury; 2. Colebrokedale; 3. The Clee Hills and South Shropshire; 4. Near the Abberley Hill.

5. *South Western*.—1. South Wales; 2. Forest of Dean; 3. South Gloucester and Somerset.

Considerable beds of coal exist in Scotland; and it has been found in seventeen counties in Ireland. The largest coal field on the continent is in Belgium; there are smaller ones in several parts of Germany. Coal abounds in the United States; and is more or less found in a line which sweeps round the globe from the north-east to the south-west. It is impossible to regard this extensive provision of so valuable a substance, which in some places has been in a course of consumption for some centuries, and in others yet offers almost inexhaustible stores, without a strong desire to know something of the history of its formation. For this knowledge we must refer to the 'Penny Magazine,' Nos. 100, 102, 105, 108, 109, 110, and 111, in which, under the head 'Mineral Kingdom,' the subject is treated under its appropriate divisions. It may, however, be desirable to state in this place that the formation of coal is attributed to trees and vegetables being carried down the rivers of the primeval world, and deposited in the bed of the sea, in an age of which we have obtained some definite conceptions by the most interesting science of geology. The probable process of the formation is accounted for in the Numbers of this Magazine to which we have already referred. The irregularity of the coal seams is occasioned by subsequent convulsions to which the earth has been subjected. These have produced what the miners call faults or dykes, which often interrupt the labours of the pit, by affording a passage to the water. A fault or dike is in fact a fissure or rent, which appears to have been effected by some tremendous power. A district in which mines are found is called a coal-field. Coal-measures is the term which miners give to the successive strata which are found alternating with beds of coal, such as slate-clay, freestone, &c.

The traveller who visits for the first time an extensive coal district will be struck by the vast canopies of smoke continually rolling their sluggish course in the direction of the wind. This smoke arises from the engine fires and from the small coal burnt at the mouth of the pit. On the clearest day these fires impart a cloudy aspect to the landscape. If a visit to the great northern coal district be the object of the traveller's journey, he will find on the road from Newcastle to Durham, which is on elevated and rising ground, a series of magnificent views successively burst upon him, almost unequalled in any part of England. At intervals, as he ascends, a wider horizon spreads out before him, the hills are bold and picturesque, and occasionally exhibit in their sweeping outlines combinations of unusual grandeur. When he at length reaches the coal-fields, he will find the face of the country black and blasted; and this appearance, united with the perpetual clatter of the waggon trains,

may fill him with somewhat gloomy feelings. When the first impressions of the traveller have subsided, and he looks more narrowly at surrounding objects, he cannot fail to be strongly impressed with the vastness and extent of the commercial enterprize of the district. On every side rise extensive buildings, and in the centre of each, one more lofty than the rest contains that mighty power which has created by its effects more than one-half of this sphere of human activity. These buildings are the works connected with the collieries. In the neighbourhood of the northern coal-fields the landscape is studded with a number of mansions, situated in the midst of extensive grounds, in which the coal-owners and capitalists whose property is connected with the collieries reside. In the present paper we shall confine our description to the northern collieries: those of the central coal district will be more properly connected with some future account of our iron-works.

Many years ago, before the science of geology had assumed so positive a character, much capital was, almost literally speaking, sunk in the attempt to discover coal. It has since been found that many of the indications which were then looked upon as a proof of its existence beneath the surface were often geologically erroneous, and necessarily led to disappointment. At present, when speculations of this kind are conducted on safer foundations, the greater part of the collieries are leased for a term of years. As property of this description cannot be insured from the risks either of fire or water, to which they are alike liable; and as large properties are required to ensure all the operations connected with the works being at once perfect and economical, the combination of a number of men of capital is doubtless an advantageous arrangement.

The animated parts of the scene in a northern coal district are not less peculiar than the other characteristic objects which strike the eye. Occasionally bands of "pitmen," as black as sweeps, each man carrying a safety-lamp suspended at his belt, are seen traversing the dingy lanes on their return from an eight-hours' "shift" of labour. The physiognomy of the miners is not of course of a very intellectual cast; but from the nature of their occupation, and from living, as they do, in a great measure apart from other classes of the community, its peculiarities are strongly marked. These have been transmitted from one generation to another, owing to the unions which they form being almost exclusively confined to families whose pursuit is similar to their own, and consist of high cheek bones, great width of the middle part of the face, and an angular form of its lowest portion. In these respects they are quite a distinct race from the neighbouring peasantry. The colliers who work in mines where the seam of coal is of sufficient thickness to permit the free use of muscular action, are erect and of good figure; while in others where the seam is of smaller dimensions, the miners have the spine permanently curved, and the legs frequently bowed. Their complexion, when it can be seen in its own hue, is generally sallow and unhealthy. Owing to the unusual light by which they pursue their occupations, the eyelids often become swollen, and the eyes assume a diminutive appearance. The strong light of day occasions them to experience a somewhat painful sensation. The dress of the colliers is necessarily characteristic. Their working clothes consist of a tunic or short frock, and trowsers of coarse flannel. Their holiday clothes are generally of velveteen, decorated with a profusion of shining metal buttons.

In the neighbourhood of an extensive coal-work in the north, there is usually a village exclusively inhabited by the pitmen and other persons connected with the colliery. These places have a singularly unpicturesque appearance. The houses consist each of one room, with a wash-house behind, and a chamber over the whole, access being obtained to the latter by means of a ladder. About two hundred such abodes, ranged at irregular intervals alongside the road, constitute one of these hamlets. Heaps of ashes and other refuse are suffered to accumulate before the front and back-doors; and upon these, during fine weather, a number of robust and half-clothed children, of an age too young to be employed at the works, are too often suffered to idle away the day. In front of every fifth or sixth house stands a bake-house for common use, which contains a large brick-built oven. Early in the morning the wife and daughters of a pitman may be seen assembled there with sundry old gossips, to bake a week's bread for the family; and to a person who has no previous idea of the sharpness and extent of a pitman's appetite, the size of the loaves may perhaps be a matter of some astonishment. Before the front window of each tenement stands a pile of small coal, which is replenished every week by a gratuitous cart-load from the pit. The fires are consequently large; and to the rapid ventilation thereby produced the general good health of the household is to be attributed, in spite of their too frequent disregard of habits of cleanliness.

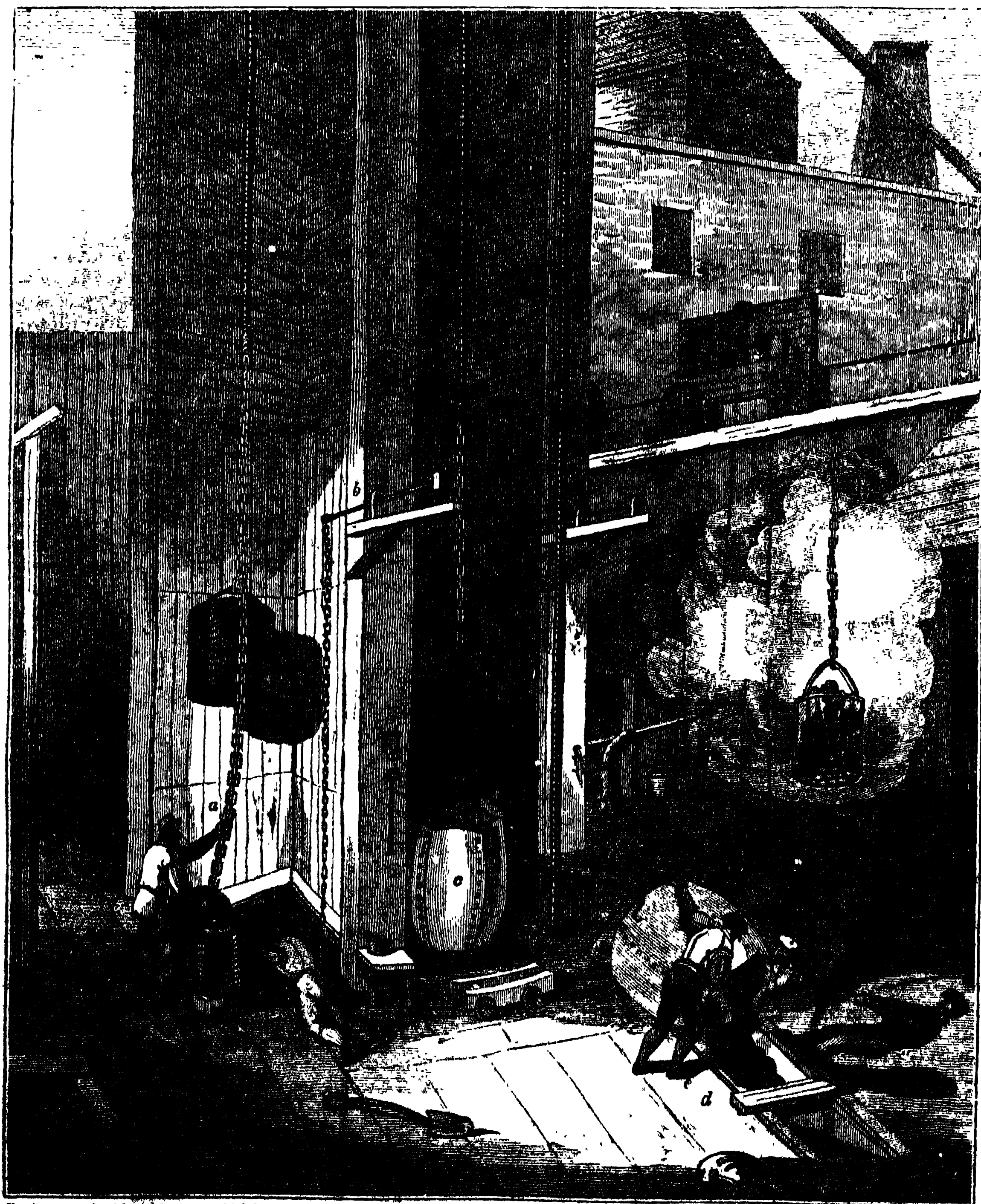
If a new colliery is opened in a part of the country where such a work had not previously existed, the colliery village springs up in necessary connexion with it, and a previously dreary and uninhabited district becomes full of life and activity. South Hetton may be mentioned as an example of this rapid growth of a community. Five years ago it was a barren spot of ground, from which the nearest habitation was two miles distant. Now it is covered with buildings, and contains a population of 2000 persons, who are exclusively connected with the coal-works. As an enumeration of their various occupations, and the number of persons connected with each, affords no bad idea of the distribution of labour which this branch of industry calls forth, we have procured an accurate census of the male working population of South Hetton, which we subjoin:—

OFFICERS.

Manager, Viewer, First Engineer, Second Engineer [Commonly called Agents.]	
Surgeon	
Clerks	
WORKMEN ABOVE PIT.	
Joiners and Sawyers. (These men keep the works in repair.)	13
Engine-Wrights. (Repair and make the machinery.)	7
Engine-Men. (Keep the machinery in action.)	8
Firemen. (Attend the boilers.)	9
Smiths. (Prepare the iron-work in the rough.)	18
Masons	8
Labourers to do.	6
Cartmen	11
Horsemen	9
Saddler	1
Waggonway-Wrights. (Lay down and mend the rails on the rail-roads, &c.)	6
Waggon-Riders. (Conductors of the waggons, of which there is one to each train.)	11
Staithmen. (Attend at the staith to empty the waggons of their coals into the ships.)	4
Banksmen, who deliver the corves	8
Waggon-Fillers and Screeners	12
Wailers. (Boys who pick out the stones and otherwise clean the coals.)	9
Corvers or Basket-makers	4
Heap-keeper. (Looks after the quality of the clean coals.)	1
Store-keeper. (This man presides over a vast magazine of stores, which he delivers to the men as they are wanted.)	1
Attendants on Railway, including Engineers and Furnace-men	8
Trimmers. (Men who fill up the holds of vessels with the coal discharged into them from the staiths.)	8
Boys for sundry purposes	39
Carry over	210

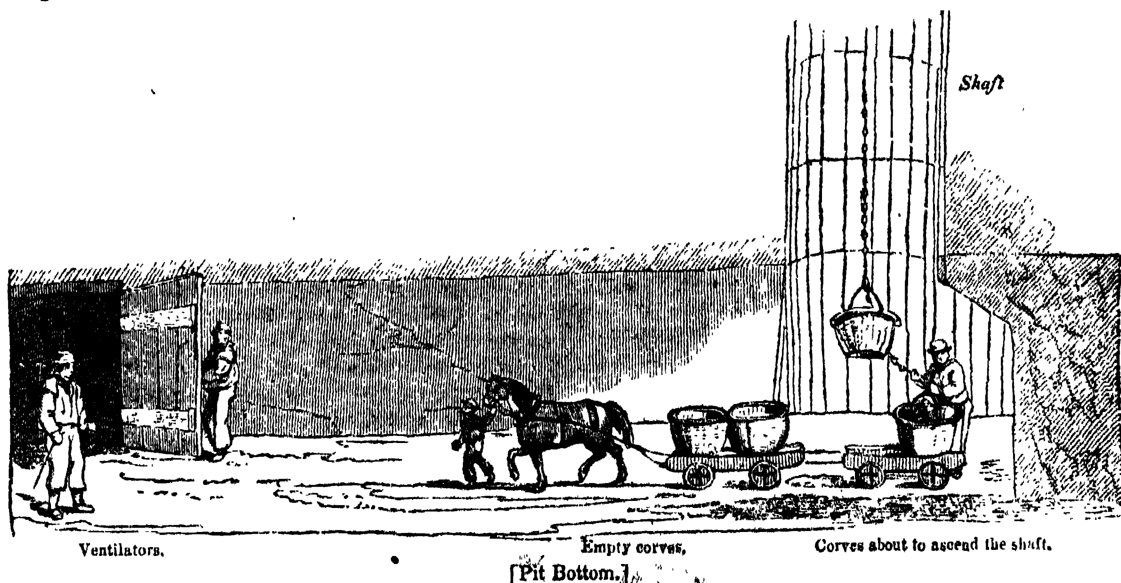
Brought forward	210
WORKMEN IN THE PIT.	
Hewers. (Miners who "hew" out and blast the coal.)	140
Putters, who "put" the corves on the trains; Dragmen and Foals, who draw them to the bottom of the shaft; Helpers-up and Trappers, who manage the ventilating doors	140
Deputies or Foremen; Ventilators, Shifters, or Pit-Masons, &c.	36
TOTAL	526

In passing through the northern colliery-villages, it is curious to remark how strikingly the character of each family is indicated by the appearance of their respective dwellings. The residence of a steady and industrious workman is distinguished by a neatly white-washed door-stead; the windows are furnished with curtains, and contain a few choice plants in bright red pots; and not unfrequently a written or painted notice announces that the good housewife prepares herb-waters, or exercises her industry in some other way for the advantage of her family. In the interior of the cottage may be seen a good and decent four-post bedstead, an eight-day clock, a venerable oak-table, and perhaps a few books. In melancholy contrast with such gratifying indications, a little further on stands a cottage destitute of the commonest household conveniences, and marked by a dirty, comfortless, and neglected appearance. In the middle of the floor, in rainy weather, it is not uncommon to see perhaps half-a-dozen children playing with what they call a "cuddy," or, in other words, an ass, introduced in this unsuitable place, with a careless disregard to comfort and propriety The only inhabitants of these villages, besides the work-people and colliery agents, are, the butcher, the general



a, Banksmen unhooking the corves which have come up; b, a hammer by which signals are made from the bottom of the shaft; c, two miners descending in an iron-tub d, Banksmen and boy shooting a tub of coals through the screening-holes.

[Mouth of Coal Pit.]



[Pit Bottom.]

chandler, and the publican. Of butchers and chandlers there is seldom more than one each, but of publicans there are generally six or seven. To the practice of indulging at the public-houses is to be attributed the degradation of some of the pitmen, and the misery of their families.

As the influence of the great coal owners and lessees can be exercised in so direct a manner on the large population whose industry is sustained by means of their capital, it is to be regretted that it is not more generally employed in calling forth an improved state of moral feeling among them, and exciting some relish for pleasures less debasing than those in which they are now too much habituated to indulge. The collier's cottage might, under due regulations, be provided with a garden; and a love for the simple pleasures which it would afford might perhaps be more easily fostered than any other.

The terms by which the colliers are connected with their employers, are usually an engagement for twelve months at a fixed sum, generally 14*s.* or 15*s.* a-week. This they receive whether employed or not; and it does not unfrequently happen that they are in the receipt of it for many weeks, when it is not possible to carry on the works, owing to the drowning of the pit, or the occurrence of some other unexpected impediment. Besides this, they are paid by the piece. The employers provide a house, and supply the family with coal gratuitously, or in some cases the small sum of 3*d.* per week is paid for these advantages. The bond, containing the terms of agreement, stipulates all the conditions into which the parties mutually enter. A bounty or increase of wages is commonly given to the workmen to induce them to break the coal as little as possible. When work is abundant, and there is not too great a number of hands, the best workmen have been known to obtain, at a particular description of work, from 10*s.* to 12*s.* a-day. Their earnings are of course much lower on an average, and may be taken at from 15*s.* to 20*s.* per week, from which, it should be recollected, there is no outgoing for rent or fuel. At times, when work has been less abundant, and the supply of hands unusually great, wages have sometimes been as low as 8*s.* or 10*s.* a-week. Some decrease has taken place in the average amount of wages during the last twenty years; but the reduction is not so great as that which has taken place in the cost of all the first necessaries of life. The men generally work from eight to ten hours a day, and they are in the mine at a very early hour in the morning. In extensive works there are different sets or shifts of men, so that the operations are carried on unremittingly. Boys are found useful at a very early age,—so early as seven,—and are employed in opening trap-doors, driving horses, propelling trucks, &c.

It is gratifying to remark that, in spite of the obstacles which may operate against the formation of provident habits among the colliers, the deposits in the Savings' Banks of the two northern counties, in which the coal-trade is the most active and predominant branch of industry, are such as not only prove the existence of considerable prosperity, but indicate a wider prevalence of economy and foresight than we could have anticipated.

Having thus endeavoured to present a picture of the general condition and economy of a colliery village, we shall now attempt to explain the operations connected with the working of a colliery. The coal-works of Colonel Breddyl, at South Hetton, near Durham, are perhaps better calculated than any other to display all the operations of a colliery in the highest degree of perfection, owing to their very recent establishment. The machinery is all new, and of the most improved and scientific construction, and the whole of the arrangements are on an extensive scale. The various operations may be divided into five series:—

1. *Winning the Coal.*—The first thing to be done in establishing a colliery is to survey the ground which it is proposed to open, which is done by an individual called a *viewer*, who ought to possess not only scientific attainments, but extensive practical knowledge, as his task is one of great importance and responsibility. Not less than 50,000*l.* have been sometimes expended to no purpose in endeavouring to procure coal; and the useless consumption of so much capital has been frequently occasioned by the erroneous judgment of the viewer. Cases of this description are, however, now of rare occurrence. The expense of sinking a pit varies from 10,000*l.* to 150,000*l.*

The average expense incurred in the operation, including the steam-engine and its apparatus, is about 30,000*l.* The site being determined upon, the sinking of the shaft is commenced, and a steam-engine is erected on the spot to work a set of pumps for drawing off the water which the "sinkers" encounter in their descent, and also to raise to the surface the excavated earth and other materials. While the sinking is proceeding, every part of the process is carefully noted in a journal kept for the purpose. The volume of water which is met with is accurately measured in vessels containing fifty or sixty gallons, and the time which each takes in filling observed. Means are then used to stop the apertures by which the pit is

inundated, and this is done by what is called cribbing or tubbing. The shaft is cased with strong boarding or brick-work, which is progressively done as the work advances. In the South Hetton Pit the shaft is 1080 feet deep, the "low main-coal," which is the best and thickest in the field, lying at this depth. The labour of sinking such a shaft is immense, and the danger of suffocation imminent, from the irruption of water, the disengagement of pernicious gases, or the falling in of materials. The inflammable air or gases, found in the strata, would, if allowed to accumulate, affect the safety of all engaged in the works. The proper ventilation of the mine is therefore a point of immense importance, and rarefication is usually produced by means of a fire constantly kept up for the purpose, which creates a powerful draught from below. The deepest pit in the northern coal-field, and probably in England, descends to a depth of 360 yards. The average depth is somewhat under 150 yards. In some cases the workmen carry on their labours beneath the bed of the sea. Commercial considerations prevent coal-pits being carried to a lower depth, as the impediments which are then met with can only be overcome by great additional outlays of capital. The shallowest of the northern pits is forty-six yards deep, but it only furnishes an inferior description of coal. The strata successively passed through by the sinkers affords matter of curious speculation to the geologist. We have been favoured by Mr. Buddle, one of the most experienced coal-viewers in England, with a very accurate statement of the series of strata met with in sinking the Eppleton Jane Pit, from which the following abstract has been prepared:—

After passing through four different strata, consisting of the alluvial cover, sand and gravel, limestone, and yellow sand, water was reached which produced 360 gallons an hour. In the next eight yards, seven other strata occurred, and the influx of water now increased to about 4200 gallons an hour. At sixteen yards ten inches below the surface, the first coal-measure was met with. The whole of the water was stopped by 'cribbing.' The progress of the work, from the commencement to its termination, was as follows:—12 strata to the first coal-measure; 10 strata to the second; 6 strata to the third; 5 strata to the fourth; 6 strata to the fifth; 7 strata to the sixth; 7 strata to the seventh; 4 strata to the eighth; 5 strata to the ninth, or 'three-quarter coal-seam,' with about 20 inches of coarse top coal and coarse coal at bottom; 6 strata to the tenth coal-measure; 2 strata to the eleventh; 3 strata to the twelfth; 10 strata to the thirteenth, 'coal high main,' at a depth of 296 yards: a stratum of 'blue metal, very mild,' was found below this, when the 'low main of coal' was reached, containing 5 feet 6 inches of good coal, 3 inches black swad, and 1 foot 10 inches of bottom coal. Beneath this, 3 strata were passed to a measure of splinty coal; 5 strata to another measure 10 inches deep; 6 strata to another measure; and 11 strata to the 'Hetton coal-seam;' the depth from the mouth of the pit to the thill of this seam being 348 yards 11 feet 2¼ inches. Excavations were made 6 yards 5 feet 4 inches deeper, making the total depth of the pit 356 yards 2 feet 3½ inches, in the course of which 182 strata, including the various coal-measures, were cut through.

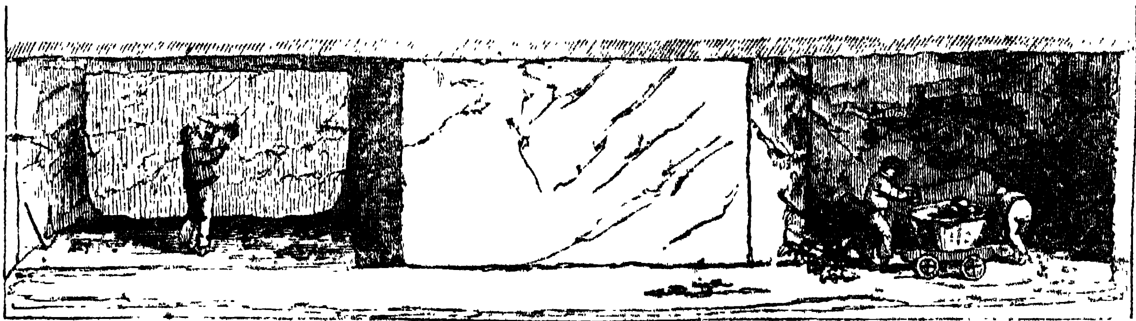
While the shaft is sinking, the necessary buildings are in course of erection, and the machinery and apparatus for "winning the coal" are got into a state of readiness. A platform is laid down round the mouth of the pit about twelve feet above the level of the ground, called "bank," or "bank-top," upon which the coal is landed. A more powerful and complete winding apparatus is affixed to two or more steam-engines for raising the coal; larger pumps are added to the engine for drawing off the water; supplementary boilers are erected for the generation of more copious supplies of steam; ventilating fires and draught-doors are prepared for exhausting the foul air of the pit, and supplying it with a current of fresh air; rail-roads for the conveyance of the coal to the nearest harbour are laid down; houses are built for the accommodation of the work-people; and when all these subordinate arrangements are finished, and all the ingenious combinations to accomplish the great object in view are brought into a state of efficient order under the superintendence of the principal agent and engineers, a day is fixed for bringing the first "coal to bank." The whole "country side" assemble on the occasion; and the opening of the pit, the winning of the coal, and the starting of the first train of waggons, is celebrated with the most lively joy.

2. *Pumping and Winding.*—The pumping of water from coal-mines was at one period performed by men or horses. This mode was of course only practised in an early era of mining operations, and was necessarily so ineffectual, that both the depth of the pit, and the extent to which it could be worked, were in consequence very limited. The hydraulic engine, or water-wheel, with cranks and vibrating beams, appears to have been introduced in colliery works in the year 1680, and into Scotland about the year 1712. About 100 years ago this mode was superseded by Newcomen's steam-engine; but even that was not of much value in pits which were as deep as 120 yards. The pumping is now effected in pits of much greater depth by the powerful and splendid engines of the present day. At South Hetton, at the back of the shaft, a noble engine-house is erected of massive stone, which contains an engine of 300-horse power. This engine is the most powerful one in the district, and its magnificent action may be seen to great advantage from three galleries which surround the interior of the engine-house. The sole business of this engine is to pump up the constantly accumulating waters of the pit, which it discharges into an adjacent reservoir from which the boilers are supplied. The constant and steady exertion of its power is as necessary as the beating of the heart to the continuation of animal life. Any impediment to its operations would be attended with disastrous consequences, and on it goes, day and night, from one year's end to another, until accident, or the wear and tear of some of its parts, bring both itself and the industry of the pit to a stand.

Adjoining the above engine, in buildings erected for the purpose, are three winding engines of ninety-horse power each, for drawing up or bringing to bank the tubs, buckets, or corves containing coal, and for enabling the workmen to descend the shaft. This is accomplished by two sets of ropes, each weighing thirty-eight cwts., which are coiled or uncoiled from two large drum wheels, as the ascending or descending motion is required. The day is chosen as the most convenient time for bringing up coal, and the night for sending down provender for the horses and the various stores.

The engine which keeps the pumps in action is furnished with four enormous boilers, and the smaller ones with two each, of proportionate dimensions. Two supernumerary boilers are kept, in order to be ready, should those in use sustain any injury. The fact that the power of 570 horses is constantly exerted in effecting the two simple operations of pumping, and drawing up the coal, affords a striking illustration of the magnitude of the operations connected with first-rate colliery works.

3. *Mining.*—We must beg the reader to imagine himself in a gloomy excavation or subterranean passage about eight feet high and fourteen feet wide. This is one of the "ways" of a coal-pit, the bottom of which


Preparing to blast. Gathering the Coal.

is called by the miners the thill, and the top the roof. Here and there along the walls of this passage a safety-lamp is suspended; and when the intense darkness of the place is occasionally illuminated by the slight ignition of the fire-damp, the whole scene presents an extraordinary appearance. The generation of inflammable air is frequently so great from the solid coal that the miners dare not proceed onward above a few feet from the current of fresh air. The light afforded by the safety-lamps seems to possess an unusual illuminating power; but though the visitor can see perfectly well, he still feels encompassed by pitchy and midnight darkness. In these galleries the miners or hewers, as they are called, carry on their work in pairs, each taking about twelve feet of the side wall to excavate, and leaving between each such space an interval of the same width on which the roof may securely rest. The first process is to form what is denominated a "bord," which is done by digging out the coal from the bottom with a pick, as is represented in the cut, to a depth of three or four feet. The "bord" being completed has next to be formed into a "judd:" this is effected by picking away the sides, as had previously been done with the thill; and when finished, it forms a projecting mass of coal measuring on its surface about eleven feet by six. Into this judd a deep sloping hole is then bored, which is filled with gunpowder and fired by a train, when the judd is shivered into large fragments and scattered over the floor. In this way much labour is saved, and a larger and more profitable sized coal is secured for the market.

The coal seams of Yorkshire average from one and a half to nine feet in thickness, while in the more northern coal-fields they run from two and a half to seven feet. Near Dudley, in Staffordshire, is a seam of coal known by the name of the ten-yard coal, from its extraordinary thickness. This remarkable bed is about seven miles long and four broad. Seams of coal have been worked as thin as eighteen inches, and instances have occurred


Pitmen forming a "bord." Dragsman and Foal. Forming a "judd."

of seams being wrought only twelve inches in thickness. Young men and boys are employed under such circumstances. The differences of thickness sometimes admit the erect posture, and sometimes oblige the men to sit, recline, or bend the body to an extreme degree. They often work almost naked, either for the convenience of motion, or from the effect of the atmosphere, which is always at a high temperature in coal-pits.

On the coal being detached in the manner above described, a corve, tub, or basket, is then brought to the spot on a four-wheeled train, by a man and boy, technically called a "dragsman and foal," and when filled with the scattered fragments, it is dragged to the bottom of the shaft, hooked to the end of the rope, and drawn to the top in about three minutes. When the corves are made of iron they are called tubs, and the labours of the dragsman and his assistant are then performed by horses. When the corve arrives at the mouth of the pit it is received by the banksman, by whom it is landed. It is his duty to see that it is properly filled, and that the coal-owner gets his proper measure from the pitmen. He also keeps an account of the quantity drawn up, for which service he is paid three farthings per London chaldron.

Plot, in his 'History of Staffordshire,' written about 150 years ago, says that about Dudley, Wednesbury, and Sedgley, or within a circuit of ten miles, "there are usually twelve or fifteen collieries in work, and as many out of work. Some of these afford 2000 tons of coal yearly; others 3000, 4000, or 5000 tons." This was in the very centre of the richest part of the Staffordshire coal-field, which now ranks the fourth in the kingdom for the extent of its supplies; and at that time coal was not consumed for domestic purposes only, but likewise in many manufactures. The amount raised annually was probably about 60,000 tons. About one-half the collieries were out of work, owing most likely to the impediments which occurred in them being of a nature which the mechanical powers of the machinery then employed could not overcome. In the same district alluded to by Plot, there is now used, not reckoning that employed in the general manufactures which are so extensively carried on in that quarter, and excluding the quantity consumed for domestic purposes, 1,725,000 tons of coal annually, in rendering iron fit for the processes which it has to pass through in its conversion into articles of utility. For this one purpose alone the consumption is now thirty times greater than it was in the year 1680, when applied to a multiplicity of uses. In eighteen hours the South Hetton pit sometimes sends to bank as great a quantity of coal as would fill thirty of the Thames barges, or above 600 tons, while in Plot's day, the whole of the collieries situated in a most productive district did not in the same time supply one-third of this quantity.

We need not wonder at the striking contrast here

displayed, when it is considered that so much of the work of a colliery was then carried on by human labour. We have seen that, previous to the introduction of Newcomen's steam-engine, there existed no means of drawing out the water from pits above forty or fifty yards deep; but that on its introduction this was accomplished in those which were twice that depth, and thus a greater quantity of coal was brought within reach, and rendered serviceable whenever it might be required; and that now pits above 300 yards deep are brought into a proper state for working by means of further improvements in the application of the power of steam. If the calling of a collier is now considered repulsive by many, it was much more so a century or two ago, when the most slavish labour of the mines was performed by men, and even women, instead of by steam-engines. The lowest part of some of the earliest mines was reached by inclined planes, along which women carried the coal from the depths of the pit to the surface in baskets which they bore on their backs. The women employed in this degrading occupation were termed bearers, and each carried a weight of from one to two cwts.; sometimes they carried three cwts. Even after the period when the coals were drawn up a perpendicular shaft by machinery, women were employed in carrying the coal from distant parts of the pit to the bottom of the shaft; and in some collieries 60,000 tons have annually been carried in this way. It is only within the last half-century that women have been relieved from such unsuitable employment.

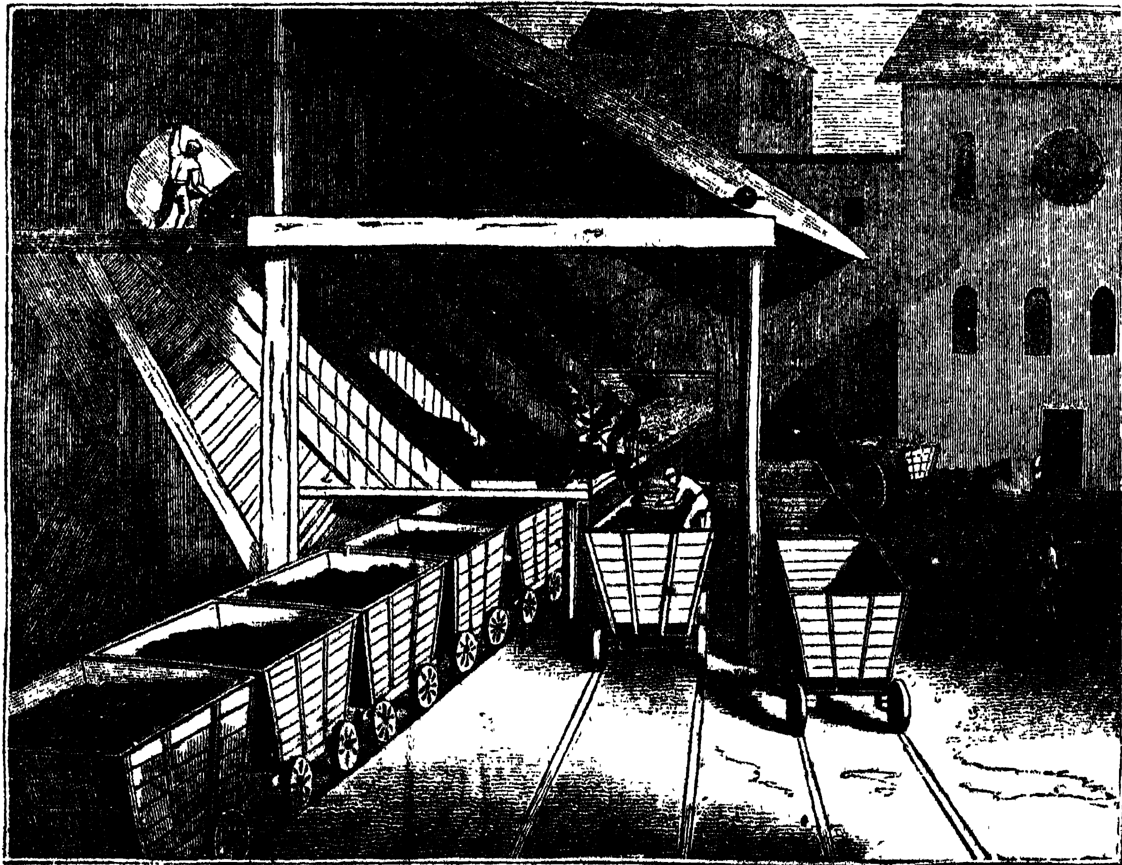
4. *Screening.*—When the corve is received by the banksman, it is conveyed, either by a train or a new suspensory apparatus, to one of a series of trap-doors in the bank-floor, through which the coal is teemed, and in its descent rolls down a long sloping sieve or screen to a stage below. The large and small coal is thus separated, and the latter is collected for inferior purposes. All the large coal for the London market is so carefully sifted that, on leaving the pit, it is perfectly free from dust and small particles. In its subsequent progress to the consumer the breakage which occurs is of course inevitable.

All coal which passes over a sieve whose meshes are five-eighths of an inch asunder without falling through, is called "Wallsend;" and the same coal teemed over a three-eighth screen is vended as "second coal," and sold to the shipowner at about 4*s.* per Newcastle chaldron less than the best Wallsend. A third sort, called "nuts," is obtained from that which had fallen through the screen in procuring the Wallsend and seconds; and a fourth termed the "dead small," from that which falls through in the preparation of the nuts.

The screened coal is collected on a wooden stage, and shovelled into the waggons which are brought underneath, and which are each made to contain exactly fifty-three hundred weight. While this is doing, several men and boys pick out any stones, slate, or other refuse with which the coal may happen to be intermixed.

The best coal for domestic consumption is the worst for a blacksmith or a founder. It sometimes happens that the produce of a pit containing inferior coal is selling in the market for a higher price than the best coal, in consequence of an increase in the demand of that required for manufacturing purposes.

In a subsequent Number we shall follow the further progress of the coal on its passage to the consumer, and enter into some particulars showing the commercial importance of the coal-trade



[Screening Coals.]

*** The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.
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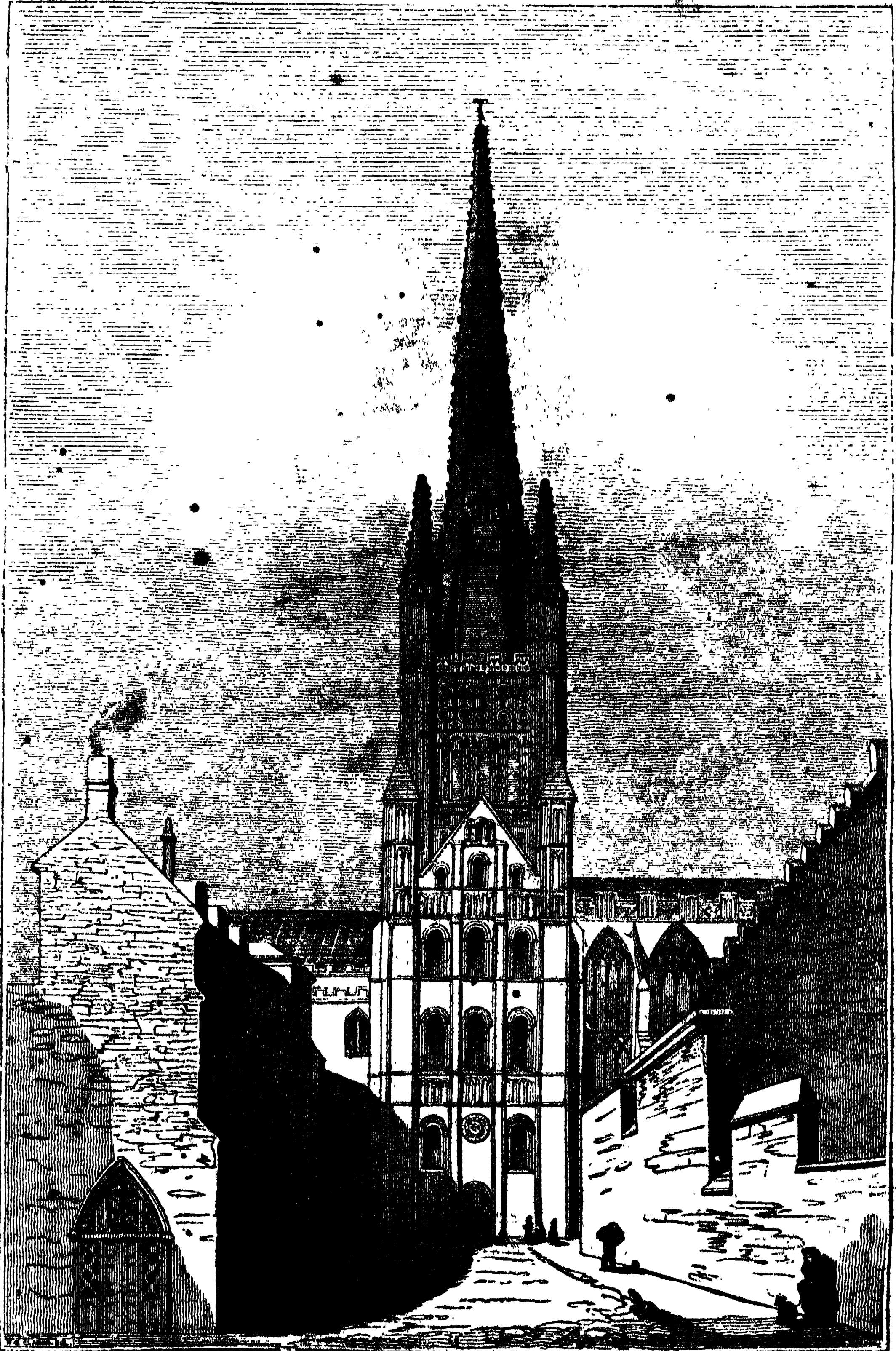
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NORWICH CATHEDRAL.



[Cathedral of Norwich.]

Norwich Cathedral, though not to be classed amongst the most beautiful or remarkable of our ancient ecclesiastical structures, yet has much to interest the curious and the lover of antiquity. It is still a noble pile: and although accident and violence have contributed nearly as much to its decay as the influence of time, and the crumbling and friable nature of the stone of which it was originally constructed has given it an appearance of extreme dilapidation, it possesses in its decay that air of solemn grandeur which is so peculiarly characteristic of our old cathedral edifices. "As an object of architectural antiquity," says Mr. Britton, "the cathedral church of Norwich is peculiarly interesting; for it comprises, in its different members, many curious specimens of the Norman style of design, and some forms and features of unique character. Compared with many other cathedrals, it is, however, small in size and meagre in embellishment. Its transepts are narrow; the aisles of the nave are small and low; the east end and north side, externally, in a dilapidated and ragged condition; almost the whole surface of the building presents a ruinous appearance: the north side of the nave is obscured and darkened by a mass of trees in the bishop's garden; some houses are attached to and obscure the building at the south-west end; and at the east side of the south transept are other incongruous and unsightly appendages." Since Mr. Britton's work was published, in 1817, some improvements and renovations have been effected: but the evil (that of the friable nature of the stone) is a primary one. "Had our ancient architects," continues Mr. Britton, "studied chemistry, and the natural history of rocks, with as much care and zeal as they did church-architecture, they would have been more choice in the selection of stone, and we should not have so frequently cause to deplore the destructive effects of weather on their scientific and curious works."

It has been supposed that the original building was of wood, and that therefore the present structure is the second erection on the site of the cathedral. The original edifice was nearly destroyed about 200 years after its foundation: but the extreme antiquity of portions of the present building discredits the supposition of an entire destruction; and it is concluded that the original church was at least partly constructed of stone, and that a portion of it enters into the composition of the present cathedral.

In giving a brief account of this cathedral, we shall first extract a general description from Mr. Britton's valuable work on 'Cathedral Antiquities.' "The whole church now consists of a nave, with two lateral aisles; a north and south transept, without aisles or columns; a choir, occupying part of the nave and area under the tower; an unoccupied space east of the choir; and a chancel, with side aisles, continued round the semicircular east end:—a chapel of two compartments, and of very singular form, at the south-east angle of the church; and a corresponding chapel at the north-east end; a square chapel, branching from the south side of the choir; a small chapel, with semicircular east end, on the east side of the north transept; a tower and spire, rising from the intersection of the transept with the choir and nave; and a cloister, nearly perfect, on the south side of the church.

"In the semicircular or altar end of the church, as viewed from the choir, there is an union of solidity and elegance which cannot fail to delight the spectator; and he will view the lantern under the tower with pleasure. The whole of the vaulting of the church is finely executed; and the bosses, at the intersection of the ribs, contain a vast variety of curious sculpture. The nave presents an interesting series of semicircular arches, with corresponding piers, columns, and ornaments; and, although narrow and long in its proportions, it is impressive and grand. In the cloister, the antiquary and general observer will find much to excite curiosity and admiration. The lavatories, doorways, windows, and buttresses, with their clustered columns, are all entitled to critical examination, and will amply repay a diligent study by the gratification they must afford. The Erpingham Gatehouse, however, is the most elegant and most curious architectural object connected with the church: unique in origin, form, decoration, and condition, it commands the admiration of all classes of visitors. At the south-west corner of the close is another ancient gatehouse entitled to notice; and in the bishop's garden is a third old gateway, and an insulated fragment of the ancient palace."

The height of the spire is 315 feet;—only one spire in Britain, that of Salisbury, having a greater elevation. The two western towers, usually attached to our cathedrals, are wanting in this of Norwich. The extreme length of the building is 414 feet. The extent of the transept, or cross-aisles, from north to south, is 180 feet.

The foundation of Norwich Cathedral is attributed to Herbert de Lozingia, in 1096, in the tenth year of William II. The story runs that, having acquired the see of Thetford by purchase, he was cited to appear before the pope, to answer for this and other simoniacal practeics. He was deprived of his bishopric, and commanded, by way of penance, to build certain churches and monasteries; and to this circumstance, it seems, Norwich is indebted, not merely for the origin of its cathedral, but for its advancement to the rank of a city, and for many of the numerous religious structures for which it has been celebrated from an early period. There must have been some arrangement or mutual understanding in this affair: for though Lozingia was deprived of the bishopric of Thetford, he had yet the power or liberty of transferring the see to Norwich, of which he was solemnly consecrated the first bishop by the Archbishop of York. The cathedral continued, as was the case with most of our ecclesiastical structures, to be added to by successive prelates, and at length became a structure of considerable magnitude.

In the year 1272, however, a furious insurrection of the people of Norwich occurred, in which the cathedral was so totally defaced as to have given rise to the conjecture, previously adverted to, that the original structure was of wood. The insurrection arose out of a long-pending quarrel between the monks and the people. In this tumult, many females took part, one of them having, with her own hand, set fire to the cathedral. The monks do not appear to have been altogether passive spectators of the scene; the prior headed them in the conflict with the people,—many lives were lost on both sides,—and the church, tower, and adjacent buildings were nearly destroyed. The monarch (Henry III.), on hearing of the insurrection, assembled the hierarchy at Eye, in Suffolk, and the citizens of Norwich were subjected to extreme severities. An interdict was laid upon the town;—sentence of excommunication was passed upon all concerned in the riots;—thirty-six individuals were condemned to be dragged about the streets by horses until they were dashed to pieces;—females were burnt to death and hanged;—nor was the interdict taken off until the citizens consented to pay, in six years, 3000 marks towards the re-edifying of the cathedral, besides 100 pounds in money for a pix, or cup of gold, weighing ten pounds. The arrogance of the monks, which appears to have been the exciting cause of the insurrection, escaped without censure, with the single exception of a short imprisonment endured by the prior.

The cathedral was restored in 1278; the king, queen, and many of the nobles contributing to its re-erection, in addition to the sum exacted from the

citizens. During the wars between Charles I. and the Parliament, the misjudging violence of the Puritans subjected the cathedral to considerable injury. The sculpture, carving, organ, and other parts, were either destroyed or defaced, and almost every brass in the church taken away. Soon after the Restoration, the loss of these things was partially supplied. In June, 1801, a fire broke out at the west-end of the roof, when a great deal of the timber-work was consumed, the lead melted, and the whole fabric in imminent danger. The flames were, however, successfully checked.

Since the commencement of the present century the interior has been repeatedly repaired, and, as Mr. Britton satirically remarks, "beautified;" and various improvements and renovations have of late years been applied. Although there are a few not uninteresting circumstances relative to the monuments and individuals connected with the cathedral, our limits will not permit us to describe them.

ARTESIAN WELLS.

Artesian Wells are formed by perforating the earth with a set of instruments called "boring rods," until a subterranean body of water be reached whose sources are higher than the spot where this operation takes place. The effort which water makes to reach its own level in this instance causes it to ascend above the surface; and thus an abundant supply of this necessary element may be obtained in districts which otherwise might be without so great a blessing. The Romans often went to an incredible expense in obtaining a proper supply of water; and the remains which still exist of their aqueducts are amongst the noblest monuments of their genius and enterprise. Works of this description, however, could not be constructed without an immense expenditure of labour and capital; and it is clear that an application of the principles of hydraulics and geological science would have been a much more simple and economical mode of proceeding. The Turks have availed themselves of the simple fact of the tendency of water to find its level in executing works as efficacious as the Roman aqueducts, but a thousand times less expensive. Their *Souterazi* are water-courses of brick-work, carried from a reservoir on some eminence down one hill, along the surface of a valley, and up the opposite hill.

It is easy to understand the cause which occasions the water of Artesian wells to ascend to the surface; and the following explanation may serve to show the circumstances under which this principle is usually brought into action. If the rain which falls, or the snow which is melted, on opposite ranges of mountains, filtrates through porous strata, or finds its way through apertures or fissures of stone, situated between strata either quite or almost impervious to water, and running below the surface of the valley, it makes for itself a channel, the form of which we will suppose to be that of an elongated curve. If any part of the valley be bored until this pipe or water-course be reached by the boring-rod, the water will spring up, under the impulsion of the law of hydraulics to which we have alluded, and a natural fountain will by this means be created. This result will not be affected by the extent of the valley, which may be a mile in width or a dozen miles. The force with which the water ascends will of course be regulated by the position chosen for the operation. It will be the greatest at that point which is situated at the lowest level, and will diminish as the source is approached from whence the supply is derived. The small springs which are met with in sinking a well are regulated by the same laws as Artesian fountains, but their sources are not sufficiently copious to enable them to reach the surface.

The term Artesian is derived from the name (*Artois*) of one of the provinces into which France was formerly divided. In this district it often happens that the only way of obtaining water is by boring. In the number of the 'Annuaire,' published by the French Board of Longitude, for the present year, there is an article, by M. Arago, which contains a number of facts relating to Artesian wells, from which we borrow such as are best calculated to explain their most important phenomena.

The question as to whence Artesian wells derive their supplies is one of the most interesting connected with the subject. The vapours of the atmosphere form one of their sources. A few hours after heavy rains, the miners of Cornwall observe a considerable augmentation in the water contained in some of their deepest pits. The fountain of Nîmes, in France, throws out, when lowest, about 280 gallons per minute; but if heavy rain falls in the north-west, although at a distance of seven or eight miles, its volume is increased to upwards of 2000 gallons. The temperature, however, is scarcely changed by this great additional quantity; thus proving that it passes with great rapidity by channels situated very deeply below the surface.

The fountain of Vaucluse, likewise in the south of France, if it received all the rain which fell during the whole year, on an extent of thirty square leagues, would not obtain a supply adequate to the yearly issue which it pours forth. When it rises from its subterranean bed, it in reality forms a river; and the volume of its waters when at its lowest is estimated at 480 square yards per minute, which at times is swelled to 1494 square yards. Its mean volume is 962 square yards. This fountain, it is clear, must obtain its waters from some more abundant source than the percolation of rain-water through the pores and fissures of the earth. Its reservoirs, also, must be capable of containing a great mass of fluid, and the channels by which it flows must be large enough to contain a subterranean river.

These reservoirs and these channels are created by fractures in great areas of stratified rock, occasioned by the action of a mighty power, which, at some period, has broken them in various directions. In some cases, these cavities actually withdraw from the surface considerable rivers. The Guadiana loses itself in a flat country, in the midst of a vast prairie; and when a Spaniard hears an Englishman or a Frenchman speaking of the bridges of their respective countries, he will tell them that there is one in Estremadura on which 100,000 cattle can graze. The Meuse and several other rivers in France also disappear in the same manner; some being sucked in by apertures in their bed, situated at various distances along the course of the stream. In the Austrian dominions, the river Poick pursues its course in the cavern of Adelsberg, where its waters lose themselves and re-appear several times. This cavern has been penetrated for the space of two leagues from its entrance, at which point a lake presents itself which has not yet been crossed. Humboldt mentions a cavern in South America, about 25 yards high, and 27 or 28 broad, which the traveller can penetrate for 800 yards, into whose recesses are rolled the waters of a stream above 10 yards wide. The grotto of Windborg, in Saxony, is also a remarkable instance of the extent of the earth's internal communications, being connected with the cavern of Cresfield, from which it is some leagues distant.

The Artesian fountain at Tours recently presented some phenomena proving the existence of an extensive and complete line of subterranean communication. In January, 1831, the vertical tube by which the waters of this fountain ascended was shortened a little more than four yards, on which its volume was immediately aug-

mented a third; but this sudden increase rendered the water less clear than usual. During many hours there were brought to the surface, from a depth of above 110 yards, various substances, among which were recognised twigs of hawthorn, several inches in length, blackened by their long stay in the water,—stalks and roots of marshy plants,—and seeds of various kinds, in a state which showed that they had been in the water since the harvest, and, consequently, that about four months had been spent in performing their hidden voyage. Shells, and other deposits which a small river, or stream of fresh water, leaves when it overflows its banks, were also brought up during the increased action of the fountain, proving the freedom with which they circulated at the depths below.

An instance is mentioned by M. Arago of one of these subterranean rivers being reached by some workmen who were boring for water close to the Barrière de Fontainebleau, at Paris. As usual, the progress of the work was slow, but, all at once, the boring rod descended nearly eight yards. When they attempted to withdraw it, it was evident that it was suspended in a body of water whose current was so strong as to occasion the instrument to oscillate in a particular direction. We have before stated that the course which water took in order to find its own level might be of any length; a fact which is clearly proved by the circumstance of the crew of an English ship becalmed in the Indian seas discovering fresh water rising from the depths of the ocean to the surface. The nearest point of land was 100 miles distant, and from hence it had come by a channel situated below the bed of the sea.

These various facts will account for the phenomena connected with Artesian fountains: but the periodical disappearance of the waters of the lake of Zirknitz, in Carniola, illustrates one of these in a manner so clear and distinct that we cannot omit noticing it. This lake is about five miles long and two and a-half broad. Towards the middle of the summer, if the season be dry, its level rapidly sinks, and, in a few weeks, it becomes dry. The apertures by which the waters have retired may be then distinctly perceived; some being perpendicular, and others in a lateral direction towards the caverns of the neighbouring mountains. Immediately after the waters have completely disappeared, the whole extent of the surface which they covered is put into cultivation; and, at the end of a couple of months, the peasants reap an abundant harvest of rye, millet, and grass. Towards the close of autumn, the waters return by the same natural channels, by which they had disappeared. It frequently happens that a heavy shower of rain on the mountains of Zirknitz will occasion the lake to overflow its banks.

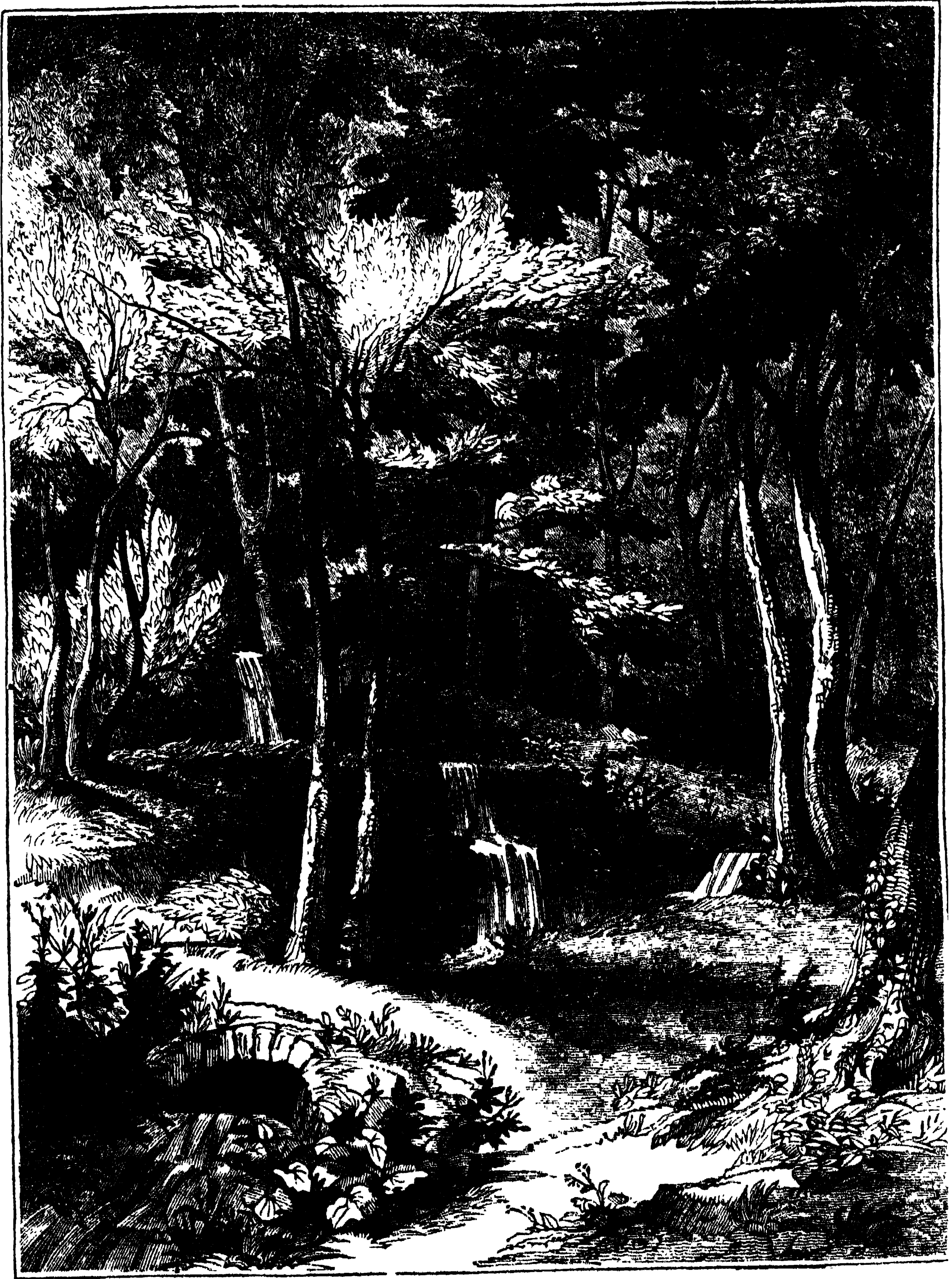
The temperature of Artesian springs is invariably higher in proportion as their depth increases. The deepest of which we have seen any statement is near Dieppe, and is about 340 yards below the surface. A well formed near Perpignan produces about 425 gallons per minute; and one at Tours ascends more than two yards above the surface, and gives 234 gallons per minute.

In France, the waters of Artesian springs are sometimes made the moving power in corn-mills. At Frontès, near Aire, the waters of ten Artesian springs put in motion the wheels of a large mill, and act besides upon the bellows and forge-hammer of a nail-manufactory. At Tours, a well of nearly 150 yards in depth pours 225 gallons per minute into the troughs of a wheel seven yards in diameter, which is the moving power of an extensive silk-manufactory. Besides their general utility in irrigations, and for purposes of domestic comfort and salubrity, the water of Artesian springs has been specially applied with advantage for other useful objects. The workshops of M. Bruckmarm, in Würtemburg, are warmed by means of water conveyed in pipes from an Artesian spring, the temperature of whose source is considerably higher than that of the atmosphere. M. Arago also states that there are greenhouses whose temperature is kept up by means of the circulation of a constant volume of Artesian waters. At Erfurt, they are used in the formation of artificial beds of cress, which produce 12,000*l.* a-year. In the north of France, the reservoirs in which the flax is steeped which is destined to be employed in the manufacture of lace and the finer descriptions of linen are supplied by Artesian springs, whose waters, being remarkably clear and of an equable temperature, dissolve the vegetable matter with the least injury to the most valuable properties of the plant. In fish-preserves it is often found that the fish are killed both by the severity of the winter and the excessive heats of summer; but this effect of the inequality of the seasons has been prevented at the fish-ponds of Montmorency, near Paris, by furnishing them abundantly with Artesian waters.

Mode of Trading at Shendy.—The wholesale trade at Shendy is principally conducted through the agency of brokers. A caravan no sooner arrives than every merchant's house is crowded with brokers; but the avidity and parsimony of all parties are too great to allow them to bring their transactions to a speedy conclusion. Even after the bargain is made, each party endeavours to cheat the other before the goods are delivered and the money paid. In addition to this, every attempt to enter into an engagement of any importance becomes known all over the place, and the jealousy of the traders often prevents its taking place. No merchandise has its fixed price: there is no such thing as a price-current; every one sells according to the prospect he has of cheating the buyer and bribing the broker. The purchase-money, or, in case of barter, its equivalent in merchandise, is almost always immediately paid down. The longest credit I have witnessed is a couple of days; and it is evident, on the termination of every commercial transaction, that the buyer and seller reciprocally entertain suspicions of each other's honesty. To oblige a debtor to settle his accounts, recourse is generally had to the slaves of the Mek, who act as police-officers; but a man who is unprotected and without friends is sure to lose the greater part of his goods if he allows them to go out of his hands without immediate payment.—*Burckhardt's Travels in Nubia*, p. 298.

Imitative powers of the Chinese.—The people discover no want of genius to conceive, nor of dexterity to execute: and their imitative powers have always been acknowledged to be very great. Of the truth of this remark we had several instances at Yuen-min-yuen. The complicated glass lustres, consisting of several hundred pieces, were taken down, piece by piece, in the course of half an hour, by two Chinese, who had never seen anything of the kind before, and were put up again by them with equal facility; yet Mr. Parker thought it necessary for our mechanics to attend at his warehouse several times, to see them taken down and again put up together, in order to be able to manage the business on their arrival in China. A Chinese undertook to cut a slip of glass from a large curved piece, intended to cover the great dome of the planetarium, after our artificers had broken three similar pieces in attempting to cut them with the help of a diamond. It is well known that a Chinese in Canton, on being shown an European watch, undertook and succeeded to make one like it, though he had never seen anything of the kind before; but it was necessary to furnish him with a mainspring, which he could not make: and they now fabricate, in Canton, as well as in London, and at one-third of the expense, all those ingenious pieces of mechanism which at one time were sent to China in such vast quantities from the repositories of Cope and Merlin.—*Barrow's Travels in China.*

HACKFALL.



[Alum Spring at Hackfall, Yorkshire.]

Hackfall is situated about seven miles north-west of Ripon in Yorkshire. The name is supposed to be derived from "hag," a witch, and "fall," a descent; the compound signifying "the witch's valley;" and indeed there is no situation which old superstitions might have been more likely to mark out as a fitting abode for unearthly beings than this deep, gloomy, and sequestered vale. Others, however, think that the name is probably a corruption of *Ac-fell*, Acorn-hill, which it might be fitly named from its rich plantations of oak. It is worthy of remark that the beauties of this romantic spot lie within so circumscribed a district, that to a traveller on the road, or a peasant in the adjoining fields, their existence would probably be quite unsuspected; nor is there any thing in the tame character of the surrounding country which could lead the lover of the picturesque to look for that exquisite combination of natural effects, tempered and improved by art, which Hackfall offers.

The entrance into the grounds is pleasant, but not very striking. A little rivulet, rising at some distance, runs into a deep woody glen, and forms three or four

small pools, on issuing from which it makes as many cascades, judiciously varied in their forms. It then flows with precipitancy to the river Ure, at the bottom of the dell, rushing over rocks and heaps of stone which obstruct its passage, and making a number of waterfalls more or less full and rapid. At a short distance from the second gate two springs issue from the rock and fall gently down its side. A little further down the visitor comes to a hill, from whence the water springs and forms a double cascade, which, after rushing over rocks and beds of stone, joins the rivulet below. Still further on there is another spring, somewhat less than the former: and, after passing a hill crowned by an artificial ruin, a winding walk, under a shade of lofty trees growing on a steep bank, conducts the spectator to Fisher's Hall,—a small octagon room built of petrified substances formed by several springs in the ground, and surrounded by hanging wood. At this spot two cascades are divided by a grove of fine trees. That on the left impetuously forces its way over a slaty rock, overhung with the spreading branches of the adjoining wood: the other falls down an irregular bed of rocks, but not in such strong breaks as the former. Without minutely detailing the successive cascades, and other objects and points of view which intervene, it may suffice to mention that an arrangement of the most interesting walks, through landscapes that cannot be excelled in variety and picturesque effect, lead to several romantic situations in pleasing succession, and at length to the summit of a rock called Mowbray Point, a commanding eminence, from which the most grand and extensive prospects are obtained. Mr. Gilpin says, that he scarcely remembers to have anywhere seen an extensive view so full of beauties and so free from faults. In the immediate vicinity, the variegated valley, the river confined between its rocky banks, and bordered by impending hills and woody summits, with a number of villages and farms, compose a beautiful assemblage. The distant objects also form a prospect which may be ranked among the finest in England. In the front are the whole range of the Hambleton Hills and the town of Thirske, with an extensive and fertile country intervening: towards the right are Gilling and Craike Castle, the Cathedral of York, at the distance of thirty miles, and the Wolds in the East Riding, forming the boundaries of the view; while, towards the left, the mountain called Roseberry Topping is distinctly seen at the distance of forty-five miles, and the prospect terminates among the rugged heights of the eastern moors.

The spring represented in our wood-cut is impregnated with alum, which abounds in the strata of the adjacent district, and is worked to a considerable extent in the neighbourhood of Whitby, Guisborough, &c. Alum works were established at Whitby about the year 1600, and, with those since established near Glasgow, still supply the market with a large quantity of this article. At Whitby it is prepared from alum-slate, the stratum of which is about twenty-eight miles in length. The cliffs are in general precipitous, and are from 100 to 750 feet in height. The slate is of a bluish grey colour, and varies considerably in hardness. At the top of the cliff it is so soft as to be crumbled between the fingers, whilst at the bottom it is as hard as roofing slate. This slate has never been accurately analyzed; but it does not appear to contain potash-salts, which are therefore added. The method used at Whitby in obtaining the alum, is to mix the broken alum-slate with fuel and set it on fire. When the slate has been sufficiently calcined, it is dissolved in water. To the solution potash-salts are added, and the crystals of alum are formed in it. It takes 130 tons of calcined slate to produce one ton of alum. In other places the processes are different in detail, but they are mostly the same in principle.

These alum-mines were discovered by Sir Thomas Chaloner, through or near whose estate, near Guisborough, part of the stratum extended. This gentleman when in Italy spent some time at Puteoli, where he had occasion to observe the process of making alum at Solfatara, and to know the profits it produced. He noticed that the people collected near that place a kind of saltish flour or dust, that covered the surface in the summer time, and threw it into large vessels full of water. These vessels being set in the earth over certain natural vents in the mountain, the water was evaporated by the warm effluvia, and the alum left behind. Sir Thomas (then Mr.) Chaloner was an accurate observer, and his subsequent discovery in England indicates with how much attention he had noticed the character of the soil, and its effects upon the vegetables produced in the neighbourhood, although he could not at that time have had any particular interest in the subject. This is shown in the details which Camden has furnished on the subject in the 'Britannia.' Speaking of Guisborough, he says:—"The place is really very fine, and may, for pleasantness, a curious variety, and the natural advantages of it, compare with Puteoli in Italy; and then, for a healthful and agreeable situation, it certainly far surpasses it. The coldness of the air which the sea occasions is qualified and broken by the hills between. The soil is fruitful, and produces grass and fine flowers a great part of the year. It richly abounds with veins of metal, and alum-earth of several colours, from which they now begin to extract the best sort of alum and copperas in great plenty. This was first discovered a few years since by the admirable sagacity of that learned naturalist Sir Thomas Chaloner, knight, by observing that the leaves of trees were of a more weakly sort of green here than in other places; that the oaks shot forth their roots very broad, but not deep, and that these had much strength, but little sap in them; that the soil was a white clay speckled with several colours, namely, white, yellowish, and blue; that it never froze, and that upon a pretty clear night it shined and sparkled like glass upon the road-side."

The time when this discovery was made seems to have been about 1600, or perhaps a little earlier. Much labour was bestowed, and great expense incurred, before the alum could be obtained; which was probably owing to the climate, and to the variation in the process which this rendered necessary. The difficulties of detail were, however, finally overcome by the assistance of Lambert Russel, and two other workmen employed in this business at Rochelle in France, who were privately brought over to this country. No sooner, however, did the works begin to return a little profit to the proprietors than it was adjudged to be a royal mine, and so came into the hands of the crown. It was then granted to Sir Paul Pindar, who was to pay a rent of 15,000*l.* a year. At that time 800 persons were employed on the works. Notwithstanding the high rent, the farm of the mines produced a large profit to Sir Paul, who kept up the price of the article to 26*l.* a ton. But the Long Parliament voted the affair a monopoly, and restored the mines to the original owners. At the Restoration not less than five works were carried on at different parts of the stratum, and the competition between the different proprietors soon brought the price of the commodity down to 13*l.* a ton. In the end, the mine which had been opened near Whitby profited so much by the advantage of its situation, that the original works near Guisborough soon fell into disuse; but it does not seem that a less quantity of alum is now derived from this stratum than at any former period.

The particulars concerning Hackfall in the above account are chiefly derived from the 'History of Ripon,' the 'Beauties of England and Wales,' and the 'Gen-

tleman's Magazine.' The facts concerning the alum stratum, and the manufacture, are from the article ALUM in the 'Penny Cyclopædia;' and the rest is from the notes to the memoir of Sir Thomas Chaloner in the 'Biographia Britannica.'

HUMMING-BIRDS.

THE geographical distribution of birds would scarcely seem to a cursory observer to be regulated by any definite laws. It would rather appear that the localities of the several tribes were quite capriciously assigned, and that the labour of the inquirer could effect no more than the accumulation of disjointed facts, from which no principles could be deduced. This, however, would be a very incorrect view of the case. The subject is, indeed, intricate; and much remains to be investigated, as it is only of late years that the attention of naturalists has been directed to it.

Some families, genera, or even species, are distributed throughout every part of the globe; while others are confined to isolated spots. Some extend within given latitudinal lines throughout the circle of the earth; while others are compensated for a limited latitudinal range by an ample spread between given lines of longitude. Thus, some of the ptarmigans (the willow-ptarmigan, for instance), the snowy owl, the jer-falcon, and many more, are spread through the northern latitudes of Asia, Europe, and America; and the parrot tribe ranges round the globe within given latitudes on either side of the equator,—India, Africa, America, and New Holland, each producing their peculiar species. On the contrary, many tribes are exclusively restricted to an appointed country; and others, that are in general spread over the earth, are denied admission to some peculiar region. Thus, the woodpeckers abound in the Old World and in the New, from north to south, but they are excluded from the continent of Australia. It may, however, be received as a rule (though the inadequacy of our information prevents us from clearly following it out in all cases), that those tribes of birds, whose localities are circumscribed within given limits, will in other countries, where all concomitant circumstances are the same, be represented by tribes filling, as it were, their place, performing their work, and displaying in the main the same habits and manners. We may instance a few of these harmonies. The peacock, of which there are two species, is limited to India and its adjacent islands; but in America its place is supplied by the turkey, of which there are two species also, and in Africa by the guinea-fowl. The ostrich roams the deserts of Africa; the emeu the wilds of Australia; the cassowary the luxuriant islands of the Indian Archipelago; and the rhea the hilly regions of South America. The pheasants of Asia are represented by the curassows and guans in America,—where the *ortyx* takes the place of the quail, and the *tinamou* that of the bustard. The honey-eaters of the South Sea islands, the brilliant sun-birds of India and Africa, and the still more splendid humming-birds of America, respectively occupy in their own territories each others' place. If these ideas be correct, then it must follow that no group of birds can be studied with advantage in an isolated point of view;—to know them we must know their affinities.

With these preliminary observations, which apply more or less universally, we introduce the beautiful group to which we have last alluded, namely, humming-birds, to the notice of our readers. This group is, in every point of view, most interesting to the naturalist. They are natives of the New World; and rich as that continent is in the most splendid feathered beings, the brilliancy and grace of these small birds are such as to excite the highest admiration in the spectator, who at once acknowledges their pre-eminence. Our knowledge of their habits and economy is, however, very limited at present; nor have their affinities been hitherto fairly investigated.

Recent discoveries have proved that their range of habitation is more extended than was once imagined; for though they chiefly abound in the intertropical latitudes of America, many visit the temperate and colder portions of that continent. The ruby-throated humming-bird (*Trochilus Colubris*), passes north as far as the interior of Canada, migrating like the swallow. Nor is this the only species which extends into a colder climate. Captain King, while on his survey of the southern coasts, met with numerous species flying about in a snow-storm near the Straits of Magellan, and discovered two species (*Trochilus Fernandensis*, and *T. Stokesii*) in the island of Juan Fernandez. Still, however, the central regions of the continent, and the islands adjacent, are their chief resort. There they people the woods and the gardens, glancing in the sun like meteors as they flit by with inconceivable rapidity, or, suspended on their burnished and quivering wings, explore the nectary of some scented blossom. These birds may be almost said to live upon the wing. There is no bird that equals them in power of flight, and they are quick as lightning in their motions. Their wings are of extraordinary length, and this, with their shape and the character of the feathers composing them, contributes to their efficiency. The feet and legs, on the contrary, are small and feeble; they are, in fact, of merely secondrate importance in the economy of the humming-bird. The ground and the trees are not its element. It sometimes, indeed, settles on a twig, while it preens its plumage of glittering scale-like feathers, or arranges the moss and down of its nest; but the air is its abiding place, where it feeds and passes the whole of its active existence. Wilson observes that "the humming-bird is extremely fond of tubular flowers, and I have often stopped with pleasure to observe his manœuvres among the blossoms of the trumpet flower. When arrived before a thicket of those that are full blown, he poises or suspends himself on the wing, for the space of two or three seconds so steadily, that his wings become invisible, or only like a mist, and you can plainly distinguish the pupil of his eye looking round with great quickness and circumspection." With respect, then, to the shape of these powerful organs of flight, we may notice that they are narrow-pointed, and more or less curved inwards, a good deal resembling those of the swift,—and are mainly composed of the primary quill feathers, beautifully graduated, the first or outer one being the longest. The secondary quill feathers are very short, and occupy the inner edge at the base of the primaries, taking up little room, and adding nothing to the breadth of the wing as in birds in general. The structure of these feathers must not be overlooked; they consist of a strong and peculiarly elastic shaft, which in many species is very thick at its commencement. On each side of this shaft is the vane, composed of narrow, closely set, springy plumelets, compacted together, as to give the idea of a thin metallic or horny web, and which, cutting the air at every stroke, produces that humming noise which is heard, while the bird hovers over the flower, or darts arrow-like along. Of the immense strength of the pectoral muscles by whose action these long pointed wings are thus rapidly agitated, we can scarcely form an adequate conception.

Next to the wings, the tail is the most important agent as an organ of aërial progression. It is not only the rudder by which a bird directs its course, or turns and wheels, but it adds to the superficies of the body

without increasing its weight. In this group the tail is ample, but varies extremely in shape; in some species it is square, in others forked, in some pointed, but in all it is composed of feathers closely resembling those of the wing in texture. Thus is the humming-bird constituted for flight; nor is this extremely rapid merely, but it is capable of long continuance. The flitting progress of the humming-bird from flower to flower resembles that of a bee,—but is infinitely more quick. When, however, the bird is journeying, it sweeps through the air in long undulations, rising and sinking alternately.

It has been supposed by many that the nectar of flowers constitutes the sole food of this charming race, but such is not the fact. Nectar is no doubt a part of their diet, but by no means the whole: they feed on the small insects which lurk in the nectary, or wander over the petals,—nay, they even take insects on the wing, as was observed by Wilson, who also found their fragments in the stomach of such as he examined; and Audubon states, in confirmation, that insects, especially those of the coleopterous order, are the principal food of the humming-bird. The bill, fitted for penetrating into the recesses of flowers, is long and slender, but varies in shape. According to Brisson and others, the tongue consists of two muscular tubes. This organ, which in the humming-bird is mainly instrumental in procuring food, is capable of being protruded to a considerable distance, as we see in the wryneck, woodpecker, &c. Audubon says, that the double-tubed tongue of the humming-bird is covered with a glutinous saliva, so that the insect adheres to it when touched; hence the bird has only to dart its tongue at its prey, and retract it into its mouth.

Diminutive as they are, these beautiful creatures are bold and intrepid, and defend their nests against intruders with the greatest spirit. Their powers of flight give them every advantage in these aërial combats over birds much larger than themselves, at whose eyes they tilt with their sharp-pointed beak, uttering, at the same time, a shrill piercing shriek. Two males seldom meet without a battle: and while the female is sitting her mate attacks indiscriminately every bird that approaches, exhibiting the utmost fury. The nest of the humming-bird varies in different species. We have seen some built on the branch of a tree, others attached to the extreme twigs, so as to wave in the breeze. The materials with which they are constructed are, for the most part, the cotton or down of various plants, beautifully interwoven; some species add an outside layer of moss or lichen. It appears that the number of the eggs laid by the female is usually two, and their colour pure white.

That these beautiful and elegant birds should not be kept in captivity will not surprise those who know the difficulty of preserving them, even in their own regions, for any length of time, in imprisonment. Several attempts have, however, been made; and, on one occasion, two nestlings of a species termed the Mango humming-bird were actually brought alive to England, and lived for a short time in the possession of Lady Hammond; they were very docile, and fed on honey, but we do not know whether insects were offered them or not. Audubon states that he has seen many humming-birds in partial confinement; and that, when fed with honey or syrup exclusively, they soon died in a state of emaciation, but that, when duly supplied with fresh flowers (abounding with insects), and surrounded with gauze-netting, through which insects could enter, they lived in health and were active. Indeed, he mentions an instance in which several were thus kept for the space of twelve months, when they were restored to liberty, the person who attended to them having a long voyage to perform.

To these instances of domestication we may add the following from the 'Habits of Birds,' in the 'Library of Entertaining Knowledge,' where it is quoted from Labat's 'Nouveau Voyage aux Iles de l'Amerique.' "I showed," says this author, "a nest of humming-birds to Father Montdidier, which was placed on a shed near the house. He carried it off with the young when they were about fifteen or twenty days old, and put them in a cage at his room-window, where the parent cock and hen continued to feed them, and grew so tame that they scarcely ever left the room; and though not shut up in the cage or subjected to any restraint, they used to eat and sleep with their brood. I have often seen all the four sitting on Father Montdidier's finger, singing as if they had been perched upon a branch. He fed them with very fine and almost limpid paste, made with biscuit, Spanish wine, and sugar. They dipped their tongue in it, and when their appetite was satisfied, they fluttered and chanted. I never saw anything more lovely than these four pretty little birds, which flew about the house and attended to the call of their foster father. He preserved them in this way five or six months, and we hoped soon to see them breed, when Father Montdidier, having forgotten one night to tie the cage in which they were roosted, by a cord that hung from the ceiling, to keep them from the rats, had the vexation in the morning to find that they had disappeared: they had been devoured."

The family of humming-birds (*Trochilidæ*) is divided into numerous *genera*, having their distinct characters: our observations are, of course, general, and apply to the group at large. We may add that upwards of 100 species are known to naturalists.



[Humming-birds, engaged in extracting the nectar, and catching insects, in the flowers of *Bignonia radicans* and *Solandra grandiflora*.]

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MAPLE-TREE.



[Sugar-Maple Tree.]

Maple is the common name of the *acer* genus of plants, of which there are thirty-four species. Nine of these belong to North America, twelve to Europe, six of great beauty to Japan, and the rest to different parts of Asia. The timber of the maple is not adapted for works of durability and strength; but, from the beauty of its texture, it is peculiarly fitted for ornamental purposes; and the variety called "curled maple" is, on this account, held in great esteem. It is capable of being highly polished, and is sometimes employed with good effect in inlaying; but is most commonly used for the stocks of fowling-pieces, for work-boxes, and other articles in which it is desired to combine utility with ornament. Its lightness occasions it to be also frequently used in the manufacture of musical instruments. The sap of the maple contains a certain quantity of saccharine matter; but two of this genus (*acer saccharinum* and *acer nigrum*) yield so abundant a supply as to have obtained for them the general designation of the sugar-maple. The former of these trees is found in North America, between the 42nd and 48th degrees of latitude,—that is, in the northern parts of Pennsylvania, the western portion of New York, in Upper Canada, Nova Scotia, and the northern parts of New England. The *acer nigrum*, or black maple, flourishes in rather a warmer climate, and is most abundant on the banks of the Ohio and the great rivers of the western states of America. These trees furnish excellent fuel, and the ashes are manufactured into potash. The maple is not surpassed by many trees in the variety of purposes in which it may be usefully employed.

The 'Encyclopædia Americana' states, that maple-sugar could be manufactured in sufficient quantities to supply the consumption of the United States; but, of course, without any intention of insisting upon the advantage of affording national encouragement to this domestic manufacture. In the newly-settled parts of

the United States, and in Canada, where the inhabitants are often placed at great distances from each other, and the opportunity of effecting exchanges is very imperfectly enjoyed, domestic manufactures of various kinds may be wisely undertaken, to engage in which would obviously be mere waste of time in a different and more advanced state of society. Accordingly, we find that, even in those districts of America where the sugar-maple abounds, it is only in remote parts of the country that its manufacture forms a regular branch of rural economy, and where a reserve is made by settlers of from 200 to 500 maple-trees for a "sugary."

The sugar is said to equal the common brown sugar of the West Indies, and, when refined, to yield to none in purity and sweetness. The produce of a single tree appears to vary considerably, by some it is said to amount to five or six pounds, and by others it is estimated as high as thirty-three pounds per tree; but this amount can probably be obtained only under a concurrence of peculiarly favourable circumstances, and in the southern states of America; for in Canada the average produce of the season from one tree is stated by Evans, in his 'Emigrants' Directory and Guide to the Canadas,' to be not more than two pounds. The sugar is worth from fourpence to sevenpence halfpenny per pound. Two men can attend to 300 or 400 trees. A family may even make 1000 lbs. of sugar in the course of a season, which commences towards the end of March, and lasts a month; and fortunately happens at a period when agricultural labours have not resumed their activity.

The following account of the process of sugar-making is taken from Evans's 'Emigrants' Directory,' quoted above:—"A large gouge, or hollow chisel, should be provided, and a piece of dry pine or cedar got, and cut into lengths of about nine inches each. These pieces should be split into bolts, about an inch thick, the breadth of the gouge; and these bolts again split up with the gouge about a quarter of an inch thick, by which they will become hollow spouts, like the instrument with which they are cut, for the sap to run in: they should then be pared with a sharp knife at the end, to the shape of the edge or point of the gouge, so that when it is driven half an inch or so into the tree, the spout also may be driven into the incision, and fit it tightly. Troughs, to receive the sap as it falls from the spout, are made of pine, fir, or ash, and being split into two, each half piece is hollowed out with an axe, so as to contain about two gallons. Each tree of ordinary size will require one, and very large trees two troughs. Buckets, which cost about tenpence each, save much more of the sap than the troughs. A tree will run about a bucket-full per day, on days succeeding frosty nights with a moderately warm sun to thaw the sap.

"After all these have been prepared, one or two of the troughs being placed under each tree, the person holding the spouts, gouge, and an axe, makes with the corner of the axe a small sloping notch about an inch and a half long, and deep enough to penetrate into the wood of the tree about half an inch; the under side of the incision being cut sloping down into the tree, so that the sap may run to its lowest point: if fit to tap, the sap is seen immediately to ooze from the cut. About an inch under that, the gouge is driven in for the spout as before directed, through which the sap is conveyed down till it drops into the bucket or trough at the foot of the tree, the cut being almost two feet from the ground: one man can thus tap about 200 trees or more in a day. One tapping generally answers for the season, and the trees, if not greatly hacked, will do for a sugary many years."

The sap is collected daily and carried to the boiling-place, when it should be put into puncheons or barrels; or large logs, hollowed out, will, in case of need, serve the same purpose. Mr. Evans gives the following directions to be attended to in the process of boiling:—"Two stout crotches are fixed upright in the ground eight or ten feet asunder, and on them is placed a cross stick from which pots or kettles are hung; a crook to hang them by being made of a crooked piece of wood. The fire is made underneath of split or small wood between two larger logs rolled on each side. The sap should be strained into the boilers, and when boiling down, one boiler should be kept filled from the other, and that again supplied from the others till the liquid be boiled down to the consistency of syrup. It is then taken up and strained into a deep narrow vessel, where it is left to settle for a day or two. When about being sugared off, it is carefully poured from the sediment into a small boiler, and again hung over a slow fire; a little milk, or a couple of eggs beat up, being put in to clarify it: as it boils it is skimmed, and, after boiling about an hour to a proper consistence, it is poured into vessels to cool, and stirred occasionally till cold. The best mode is not to boil it too dry, but to pour it into a barrel after boiling sufficiently, and when cold the sugar begins to crust on the surface in a day or so; after which, by having a few gimlet-holes bored in the bottom of the barrel, the molasses will run off, and leave after it a clean fair sugar. To prevent the sap or syrup from boiling over, about an inch square of fat pork should be thrown in once or twice a day, and it will be found to have the desired effect. The scum, sediment, and last run of the sap from the trees which is not good for sugar, should be boiled together, one-half down; and, being barrelled, will, by allowing it to ferment, make good vinegar."

THE SALT-MINES OF SALZBOURG.

The following account of a visit made by three French gentlemen to the salt-mines near Salzbourg, in the Austrian dominions, is abridged from a work entitled 'Voyage d'un Français aux Salines de Bavière et de Salzbourg,' in 1796; and a gentleman, who has recently visited it, assures us the description agrees exactly with its present state.

The salt-mines are at a little distance from the small town of Hallein, and at the foot of the Durenberg mountain. We seated ourselves in sledges, and were conveyed to the opening which leads into the interior of the mine. Before descending into the mine we equipped ourselves in the costume of the miners, which consisted of flannel waistcoat and trowsers, and a large white cape for the shoulders. These preparations are rendered necessary by the extreme humidity of the mine, which would effectually have destroyed the common articles of clothing. We were also supplied with strong shoes, a leather apron, and a hood. We then seated ourselves on a sort of wooden horse called a 'wurst,' which moved on four small wheels. Three of the miners attached the traces of this machine around their waists, and dragged us slowly through a long gallery, on each side of which was an aqueduct constructed of wood. One of these conveyed a supply of fresh water into the mine, and the other carried it off when it had become sufficiently impregnated with salt. In a quarter of an hour we reached the first shaft. It is not dug in a perpendicular direction, but inclines at an angle of about 45°. It was along one of these that we were to descend to a depth of about eighty yards.

The descent is effected in the following manner:—Two round and smooth beams are placed side by side on the lower part of the shaft, about a foot asunder. They somewhat resemble the machine used by brewers for lowering beer into cellars. They are fixed, and extend

from the entrance to the bottom of the shaft. Upon these beams the person descending seats himself, placing his legs over each side, and thus slides to the bottom. A great rope is stretched on the right, about the height of the arm, in order to enable those who are descending to regulate the rapidity of their descent. One of the miners preceded each of us in the descent. My attendant placed himself between my legs, at the same time cautioning me neither to move my arms nor feet. The men then asked us if we were alarmed? to which, of course, we courageously replied in the negative. Then, abandoning ourselves to the impulse of our own weight, and each of us holding in one hand a burning torch, we glided forward so rapidly, that we were at the bottom of the "rolle," or beam, in half a minute. We then proceeded along another gallery, similar to the one at the entrance of the mine; and descended still deeper into the mountain by two other rolles, on which, profiting by my previous experience, I kept my seat without assistance. This mode of descending was both easy and pleasant, and I even regretted that the fourth rolle was the last.

The mountain, within whose bosom we now were, is composed of a sort of rock-salt, which is in a constant course of growth or formation. The first excavations appear to have been made at a period so remote, that tradition has not even preserved any records of the date at which the working of it was first commenced. These excavations consist of chambers six or eight feet square, into which water is conveyed by means of the aqueducts before-mentioned. The water enlarges these chambers by dissolving gradually the walls and roof. They are generally about six feet in height, and are filled as nearly as possible with water. If the chamber were half filled with water, the sides only would be submitted to the process of solution, but, by being very nearly filled, the water attracts the saline matter contained in the roof, and the operation is carried on in the most rapid, and at the same time effective, manner. The miners term the roof of the chambers the "ciel."

The rock-salt is of different colours, but blue, grey, and yellow are the most common. Frequently it is friable, and sometimes slaty, and peels off in transparent cakes—resembling the tracery work produced on a window by frost. There is often found, in a chamber of 613 yards in circumference, seven or eight masses of slaty rock three or four feet in diameter, which do not contain any salt whatever. Of course these masses resist the direct action of water, but, as all the parts round them containing salt are gradually dissolved, they are in the end detached from the roof and deposited on the floor. We saw several of these in one of the chambers we examined. The water had been drained out of this chamber three weeks before, and it was illuminated with about fifty candles. One of these masses, like a shapeless column, reached from the floor to the ceiling; some, on being detached, had left cavities two or three feet deep, and several were still suspended. The miners pass carelessly under them. But that which caused me most alarm was to find myself under a ceiling 584 yards in circumference, on which the weight of the superincumbent mountain rested, and which was not even supported by the vaulted form which nature usually gives to the roofs of subterranean caverns. It was perfectly flat, and was only sustained by the adhesive forces which existed between all the various parts of this immense apartment. The firmness thus occasioned is so great, that only one instance has occurred during several centuries of a ceiling having given way.

There are thirty-three chambers excavated in the mountain. They are partly shaped by the action of the water, and their dimensions are irregular, according as the mass composing the roof or walls is more or less charged with salt. Many chambers are excavated one over the other, thus forming different stories, the mass which separates one chamber from another serving the same purpose as boards and lath and plaster in houses, though of course much thicker. The miners informed us, while we were examining one chamber, that above us was a chamber at that time filled with water. It may appear singular that a large body of water thus situated should not find its way into the apartment beneath, but we found the ceiling scarcely humid. The reason of this is, that before the water is introduced, the floor is covered with clay, which is beaten down so as to render the surface impervious to the water. A kind of blue clay is used for this purpose, which is worked up into a proper consistence with wooden mallets; and when it no longer contains any rough particles it is spread over the floor. If it should leak, a little saw-dust is thrown into the water, and by this means the position of the outlet is ascertained, which is first of all enlarged, and then securely plugged with the clay cement. If the water escapes by one of the galleries, the gallery is abandoned to a certain distance, and endeavours are made with the cement to repress the passage of the water as much as possible. If this fails, however, it becomes necessary to open another gallery, and this is the most difficult task which the miners are called upon to perform. In executing this work they are obliged to divest themselves of every article of dress; as, without this precaution, their clothing would absorb a strong saline composition, which would render it hard and brittle, and cause it to tear the skin. I could not think without compassion of these unfortunate men being thus employed for nine hours a-day for so small a recompense as twelve kreutzers (4*d.* or 4½*d.*) The men are relieved every three or four hours when thus occupied; and from the hardships they undergo they are not long-lived.

When the water in the chambers is sufficiently impregnated, it is drawn off. When it is entirely withdrawn, the ceiling is found to have increased about two feet in height; but at the same time the floor is raised two feet by the fallen materials. By this means the necessary degree of thickness is maintained between one chamber and another. Two chambers situated one above another are by this process in a gradual course of ascension, so that the lower one occupies the same elevation in about eight or nine years, which was previously held by the one above it. The saline matter, of which the ceiling is composed, is dissolved, and the other parts are deposited on the floors. The materials thus deposited, although destitute of any saline particles, in the course of time acquire the qualities of rock-salt,—a process which promises to render the mountain at Hallein a perpetual source of riches.

Care is always taken that two neighbouring chambers are not placed on the same level, as the lateral pressure of the water might open a communication between them. When a chamber has been made use of, it is necessary to raise the gallery leading to it, the deposits which have taken place having made the floor about two feet higher than before. On this account a chamber is only used once in three years.

A remarkable instance of the growth of a saline rock may be seen at Hallein. In forty years it has encroached about three feet on each side of the gallery, a wooden trough, which runs through the centre, offering a resistance to it in that part which it has been unable to overcome. Each of the galleries, and the aperture by which it is entered, has its separate name, as well as each chamber. The gallery named Wolf Diedrich is so called after one of the prelates who filled the archi-episcopal see of Salzbourg, a man of great firmness of

character and strength of purpose, as will be seen by the following account of the Wolf Diedrich gallery, which was dug in a part of the mountain which had not previously been penetrated. This gallery was absolutely necessary as an outlet to the water after it had become impregnated with salt, but the only side of the mountain on which it could be executed consisted of the hardest description of marble or granite, and, according to the plan of Wolf Diedrich, it was necessary to penetrate through 1578 yards of this material. Objections were made on the ground of the expense of such an undertaking and its probable impracticability; but he persisted, in spite of these unfavourable opinions. The ordinary implements being found of a temper too soft for the purpose, he caused them to be made of steel, but still they only struck from the rock particles as small as dust. Wolf Diedrich hoped with all the strength of perseverance. "If we only succeed in obtaining dust," said he, "we shall in time penetrate into the heart of the mountain." The work was carried on in opposite directions, one party commencing on the outside of the mountain, and the other in its interior, and was continued in this manner during fifty years. The mountain engineers who directed the labours of the workmen, guided their course with such precision, that the two passages opened into each other at the place appointed for their junction. There was, however, some error in the levelling, arising from their having neglected the rules on which they had at first proceeded, and being guided, on the near termination of the work, by the sound of their tools. The sound deceived them, and the error which they made is still visible. This gallery is about a yard broad, and nearly five feet high. It is divided into sixteen stations, where recesses are made, into which, when two *wursts* meet, one of them can be withdrawn to allow room for the other to pass. The inclination of the gallery is about an inch in two yards.

We were afterwards conducted into a chamber, the walls, floor, and ceiling of which consisted entirely of salt. Fifteen of us entered this apartment, the appearance of which, when illuminated by our torches, was very extraordinary. This is a sort of council chamber of the miners, where the superintendents are received when they pay their annual visit.

The following is the extent of the mine:— length 2012 yards; depth 314 yards. The expenses of maintaining it in a proper state for working are not great, owing chiefly to the wood which is made use of becoming so thoroughly impregnated with salt as not to require renewal. The pernicious gases which are found in coal and other pits are occasionally generated in these works, but not to such an extent as to produce disastrous consequences. The water at times occasions considerable damage.

We spent three hours in the heart of the mountain; the air is neither hot nor cold, but of a mild and equable temperature. We proceeded out of the mine by the marble gallery of Wolf Diedrich, seated on a *wurst* drawn by the miners.

TYNEMOUTH PRIORY.



[Tynemouth Cliff, with the Lighthouse, Priory, and Barrack.]

THIS old ruin is situated in Northumberland, and stands on a peninsula, formed of stupendous rocks, on the north side of the mouth of the river Tyne, and to the east of the town of Tynemouth. It is of very remote antiquity—earlier than the eighth century; but no authentic record appears to exist respecting its original foundation.

The choice of the situation, however, appears to have been dictated by two motives, security and gain. "The exalted height," says Grose, "on which the monastery stood, rendered it visible at sea, a long way off, in every direction, where it presented itself, as if reminding and exhorting seamen in danger to make their vows, and promise masses and presents

to the Virgin Mary and St. Oswin." Thus, therefore, though during stormy and inclement weather the situation must have been very unpleasant, yet in those unsettled and credulous times it afforded the advantage of presenting to the eye of the sailor in distress an object towards which he could direct his prayers and bend his course, and also an outpost from which a hostile armament might be descried, and an alarm communicated. Neither its utility nor sanctity, however, could preserve it; for in the infancy of the establishment it suffered greatly by the incursions of the Danes, by whom, as the old chronicles state, it was thrice plundered, the church at one time being burned to the ground. Tosti, Earl of Northumberland, in the reign of Edward the Confessor, is said to have rebuilt and endowed the Priory for Black Canons, dedicating it to the honour of the Virgin Mary and St. Oswin, the remains of that Saint having been found among the ruins.



[Church of Tynemouth Priory.]

That the situation, at the mouth of a river, and on an elevated site, early recommended the place as suitable both for military defence and religious purposes, is evident from the fact that Robert de Mowbray, about the year 1090, fled hither, and defended himself within its walls against William Rufus, (against whom he had conspired;) but, after a time, finding that he could hold out no longer, he sought "sanctuary" at the altar of the church, from which, however, he was taken by force, carried to Windsor, and, after suffering a tedious imprisonment, was put to death. The monastery at one time enjoyed considerable wealth. It possessed twenty-seven manors in Northumberland, with their royalties, besides other valuable lands and tenements. At the dissolution, in 1539, there was a prior, with fifteen prebendaries and three novices. The annual revenues of the priory were then estimated (separate from the Abbey of St. Alban's, on which it depended) at 397*l*. 10*s*. 5*d*. by Dugdale, and at 511*l*. 4*s*. 1*d*. by Speed. The prior, on the surrender of the monastery, received a pension of 80*l*. per annum. The site and most of the lands were granted in the 5th of Edward VI. to John Dudley, Earl of Northumberland; but by his attainder in the next year it reverted to the Crown, in which it remained till the 10th of Elizabeth. During the reign of Elizabeth the place was occupied as a fortress, as in a statement given by Peck, in his 'Desiderata Curiosa,' of that queen's expenses, civil and military, Tynemouth Castle is set down as having a master gunner at the "fee per diem" of 8*d*., and six inferior gunners at 6*d*. a-piece. Camden, quoted by Grose, says, "It is now called Tinemouth Castle, and glories in a stately and strong castle."

During the civil war it was besieged and taken by the Scots, in 1644, when thirty-eight pieces of ordnance, and a large store of arms, ammunition, and provisions fell into their hands. The garrison were allowed to march out with their baggage, but bound themselves to submit to the instructions of Parliament. A sum of 5000*l*. was voted to repair the damages it had sustained. Colonel Henry Lilburne was made its deputy-governor; but having declared for the King, Sir Arthur Hazelrig immediately marched from Newcastle against him, and stormed the place with almost ferocious bravery, the men entering the fortress at the very cannon's mouth. During the assault Lilburne was slain.

The following description of the remains is from a small work published at North Shields in 1806. It is compiled chiefly from Grose; but as it was printed near the spot, and appears to have been in some instances corrected from personal inspection, we have judged it proper to adopt its statements:—

"The approach to the Priory is from the west, by a gateway tower of a square form, having a circular exploratory turret on each corner; from this gateway, on each hand, a strong double wall has been extended to the rocks on the seashore, which from their great height have been esteemed in former times inaccessible. The gate, with its walls, was fortified by a deep outward ditch, over which there was a drawbridge, defended by moles on each side. The tower comprehends an outward and interior gateway, the outward gateway having two gates, at the distance of about six feet from each other, the inner of which is defended by a portcullis and an open gallery; the interior gateway is, in like manner, strengthened by a double gate. The space between the gateways being a square of about six paces, is open above to allow those on the top of the tower and battlements to annoy assailants who had gained the first gate.

"On passing the gateway, the scene is strikingly noble and venerable; the whole enclosed area may contain about six acres; the walls seem as well calculated for defence as the gateway tower; the view is crowded with august ruins; many fine arches of the priory are standing. The most beautiful part of these remains is the eastern limb of the church, of elegant workmanship. The ruins are so disunited, that it would be very difficult to determine to what particular offices each belong. The ruins which present themselves in front, on entering the gateway, appear to be the remains of the cloister, access to which was afforded by a gateway of circular arches, comprehending several members inclining inwards, and arising from pilasters. After passing this gate, in the area many modern tombs appear, the ground being still used for sepulture. The west gate entering into the abbey is still entire, of the same architecture as that leading to the cloister. The ground, from the cloister to the south wall, is almost covered with foundations, which, it is presumed, are the remains of the priory. Two walls of the church are standing; the end wall to the east contains three long windows; the centre window, the loftiest, is near twenty feet high, richly ornamented with mouldings, some of which are of rose work, and others of the dancette, as the figure is termed in heraldry, or zigzag, a decoration common to old Saxon architecture. Beneath the centre window at the east end is a doorway of excellent workmanship, conducting to a small but elegant apartment, which is supposed to have contained the shrine and tomb of St. Oswin. On each side of the door is a human head, cut in a style much superior to that of the general taste of the age in which they are supposed to have been executed."

The manor of Tynemouth belongs to the Duke of Northumberland. But the site of the monastery is said to belong to the Crown; and it was held under a lease by Colonel Henry Villars, formerly Governor of Tynemouth. Villars obtained permission to erect a lighthouse, and to receive 1*s*. for every English, and 6*d*. for every foreign ship anchoring in the harbour of Shields. It is stated by Grose,—and the statement is repeated in the 'Border Antiquities,' that Villars pulled down many of the old buildings to obtain materials for erecting the lighthouse, an adjoining barrack, his own house, &c., and that he stripped off the lead which, till then, had covered the church. In the engraving at the head of this article, the relative positions of all these buildings are shown. That on the right being the barrack, the others cannot be mistaken.

MINERAL KINGDOM.—Section XXXVI.

Gold—(*continued*).

Gold Mines.—The chief supply of gold, for the last two centuries and a-half, has been from South America and Mexico. When Columbus landed on the Island of Hispaniola, in the year 1491, he found the natives wearing ornaments of gold; and they offered gold-dust in exchange. The natives of the coast of Carthagena, and of the Isthmus of Darien, had also many ornaments of this metal, some of which were very massive. But from the first discovery of the New World to the year 1519, when Cortez landed in Mexico, the quantity of gold and silver brought to Europe, according to the estimate of Humboldt, did not exceed 52,000*l*. The wealth in the precious metals which Cortez and his followers found in the possession of the chiefs, as they advanced into the interior, shows that the Mexicans must have made some progress in the art of mining before their country was visited by the Europeans. The Spaniards were struck with astonishment at the quantity of gold and silver which they found in common use, both for ornaments and for utensils. Pizarro landed in Peru in the year 1527; and he also found gold used for ornaments, and for vessels of various kinds, in considerable quantity. Mines had been wrought for the Incas, and the ore was smelted in

small portable furnaces of baked clay, in a manner the most rude; the heat being urged by exposing the furnace, in an elevated situation, to the blasts of heaven, shifting its position according to the direction of the wind, or increasing the heat by men blowing through long tubes, with a small orifice at the end next the fire.

Gold Mines of Mexico.—Mexico comprehends all that part of North America which extends from a line drawn between the Bay of Honduras on the east to the Gulf of Tehuantepec, in the Pacific, forming the southern boundary, to the 38th degree of north latitude, and having the state of Louisiana on the north-east. The veins of gold are contained in the primary stratified rocks (gneiss and mica-slate) in the province of Oaxacas, towards the south; and the porphyries, which are of frequent occurrence, are in general rich in veins of gold and silver. The grauwacke-strata are also rich in the precious metals, as in the province of Zacatecas; and some mines, as at Real Catorce, are wrought in a secondary limestone, considered by Humboldt to belong to the same age as the magnesian limestone of England (L, diagram in No. 51); and, what is very remarkable, even in a much more modern secondary deposit, of the age of our oolite series (I), as in the famous mines of Tasco, in the province of Mexico. The principal silver vein in the rich gold-mine of Villalpardo, near Guanaxuato, is traversed by a great number of small earthy veins, so rich in gold, although the metal is not visible, that, in order to prevent fraud, the miners are made to bathe in a large tub, when they come out of the mine. Almost all the silver of Mexico contains gold; and generally in sufficient quantity to make it profitable to extract it. Stream-gold is also found in many of the alluvial deposits of Mexico, as in the province of Sonara, on the west coast, bordering on the Gulf of California, where masses of five and six pounds weight have been met with. But all the gold of Mexico is not equal to a twentieth part of the silver it produces. Upon an average of the latter years of the last century, the annual produce of Mexico in gold was estimated to be about 517,775 troy ounces, or about 200,000*l.* in value. There is no reason to suppose that the produce has increased since that time, but rather the contrary, on account of the political revolutions to which the whole country has been subjected for the last twenty-five years, and which must have caused great interruptions to industry and to commercial enterprise.

Gold Mines of South America.—Beginning with the western side of the continent, "the most considerable gold-mines of Chili are in the district of Petorca, north-east of Valparaiso; and, farther to the north, in the districts of Coquimbo and Copiaba. In Peru, the provinces the most rich in gold are those of Pataz and Huailas, between the seventh and ninth degrees of latitude, and situated in the ridge of the Andes. The Incas obtained vast quantities of gold from the plains of Curimayo, north-east of the city of Caxamarca, at an elevation of more than 11,000 feet above the sea; and in the Cerro de San José, at a height of 13,000 feet, considerable quantities of gold have been found in veins of an ore of silver. Very extensive and productive stream-works are situated on the banks of the river Tipuani, not far from the town of Zorata, eastward of the great lake of Titicaca, and which appear to have been worked by the early inhabitants of the country, for ancient Peruvian tools are sometimes found in the soil. There are veins of gold in mica-slate in the province of Antioquia, in Colombia, but there are no mines worked there, on account of the inaccessible nature of the country. All the gold of New Granada is obtained from the alluvial soils, and the richest stream-works are in the provinces of Antioquia and Choco, in the valley of the river Cauca, and on the coasts of the Pacific in the district of Barbacoas; but the auriferous alluvium extends over the whole country from the western Cordillera of New Granada to the sea-shore."—(*Penny Cyclopædia*, article Andes.) The annual produce of the gold-mines and stream-works of South America, exclusive of Brazil, is stated by Humboldt to have amounted, at the beginning of the nineteenth century, to 283,429 troy ounces; which, valued in its refined state, at 4*l.* per ounce, is equal to 1,133,716*l.* The produce of Chili has, however, greatly fallen off;—from about 12,000 ounces, in 1810, to 2220, in 1830.

When Brazil was first discovered, gold was in such common use that the inhabitants had fish-hooks of that metal, but had no iron, although their country abounds in it. The district in which gold is now obtained in greatest quantity is in the mountainous part of the province of Minas Geraes; but it is also got in the provinces of Goyaz, Matto Grosso, and San Paolo. It occurs in veins in primary clay-slate, limestone, and granite; and the iron-ore with which those districts abound is also frequently auriferous: but the most fertile source of supply is the stream-gold in the deep alluvial soils which cover the primary rocks. The gravel and sand are washed, and the heavier gold is separated by a process similar to, but less skilful than that followed in the tin stream-works of Cornwall. Mr. Jacob estimates the produce of the gold-mines of Brazil to have been equal to 80,000,000*l.* sterling in 110 years, ending in 1810; but it has been gradually declining, he says, since the middle of the last century. Thus, the average annual produce from 1752 to 1762 was about 950,000*l.*; from 1785 to 1794 it was about 415,000*l.*; and, in 1810, the mines of Minas Geraes, which afford three-fourths of the whole produce of Brazil, yielded only about 205,000*l.* In the subsequent ten years, there must have been an enormous decline, if the statement of Major Von Schäffer, who visited the country in 1822, be correct; for he says, in his work on Brazil, that the produce of the preceding year was only 24 arrobas of gold, which is equal to about 44,000*l.* If this account is to be relied on, then we have in Brazil, as in other countries, a proof of the extraordinary vicissitudes to which mining adventures are subject; for, in a letter of one Rafael de Amar, published in Leonhard's 'New Annual of Geology,' dated July, 1833, it appears that the gold-mines of Gongo Soco had, a short time before, produced 30 arrobas of gold in three months; and that the same mine had yielded above 100 arrobas in the preceding year: 100 arrobas are equal to 47,233 ounces, so that the value was about 188,932*l.*

Gold Mines of Europe.—The Ural mountains, which separate European from Asiatic Russia, yield the largest amount of gold that is now produced in any part of the Old World. The mines there have been gradually increasing since their discovery in 1819; and, in the year 1830, according to a statement by Humboldt in his 'Fragmens Asiatiques,' they yielded 355 poods of gold. A pood is equal to 45 pounds troy; and if we estimate the gold, in its refined state, at 4*l.* per ounce, we have a total value of no less a sum than 766,800*l.* The mines are situated on the eastern side of the mountains, and are almost wholly in alluvial deposits, that is, nearly all the metal obtained is from stream-gold. After the discovery of the stream-gold, several attempts were made to find the veins. One mine is now worked in the rock, at Beresof, 15 wersts, or 10 English miles, north-east from Katharinenburg; and another was opened at Newiansk, about 95 wersts, 63 miles, north of the same town; but it had been abandoned when Humboldt visited Siberia in 1829. The alluvial soil yields from 65 to 130 grains of gold in 100 [illegible], or 3600 pounds avoirdupois. Sometimes large [illegible] are found, one of which, met with within a few [illegible] the surface near Miask, in the southern [illegible] weighed nearly 330 ounces. The Russia[illegible]ernment sent out, in 1832, four different expeditions, composed

of engineers and other properly-qualified persons, to traverse the Ural mountains in various directions. It is expected that, in seven years, a very complete geological map of the whole range will be completed.

Although the Russian mines are properly in Asia, we have considered them as belonging to Europe in this respect, for a considerable part of their produce is refined in Petersburgh. Gold has been long found in various parts of Europe, but the produce has declined considerably, when the average of the last twenty years is compared with that of the preceding hundred years. The only mines that are now of any importance are in Hungary, which a few years ago yielded, according to Brongniart, 20,900 ounces yearly, or about 83,600*l.* in value. The most celebrated mine is that of Nagyag in Transylvania, where the gold is in combination with tellurium; and there is a mine at Chemnitz where it is alloyed with silver, lead, and iron. Dr. Edward Brown, an English physician, who visited the Hungarian mines about the year 1760, says, that the mines of Chemnitz had been worked nearly 950 years, and were then the richest in gold in all the kingdom. But the chief supply is from the alluvial soils; and collecting gold in the beds of torrents and rivers is one of the chief occupations of the gypsies, the *Zigeuner*, who are so numerous in Hungary. Native gold is found in veins in the Salzburg Alps, and in the mine of Edelfors, in the province of Smoland in Sweden, but in small quantity. It is probable, however, that it was found at an early period in that country, for swords, daggers, and knives have been dug out of tumuli in some parts of Sweden, having blades of gold with a cutting edge of iron. Stream gold is found in a great many parts of Europe, especially in the beds of rivers, as in the Danube, Rhine, and several others connected with mountainous countries. That part of the course of the Rhine which passes through the territory of the Duke of Baden yielded to the government, in the year 1827-8, about 943*l.*, according to official documents which have been published; but it is seldom found anywhere in Europe in sufficient quantity to repay the labour of searching for it; and the gypsies and others who follow this trade are much worse paid by all they find than the commonest day-labourer; but the vagabond life, and the hope of meeting with a prize, even where the blanks are numerous beyond all proportion, have charms too exciting for the search to be altogether abandoned.

EXCHANGES.

In a tribe of savages, a discovery is made by one of them of a colouring substance, with which he stains his body. This adornment excites the envy of his companions;—each desires to ornament himself in like manner. But the inventor alone is in possession of the colour; what, then, will the others do to obtain it? There are but three means by which this may be accomplished;—violence, persuasion, and exchange. Violence is not always the most practicable means. Strength or address may be wanting; and even when violence is successful, reprisals may be anticipated. However brutal and unintelligent men may be in the infancy of societies, they soon recognise that it is the interest of all to prevent violence, and mutually to guarantee their possessions. Persuasion is a more effectual means; and even animals make use of it. When violence is out of the question, they endeavour to gain favour by their address. The infant caresses its mother; and the dog, which sits by the side of its master at dinner-time, endeavours, by a thousand wiles, to attract attention, and to obtain a morsel. In a prosperous state of society, persuasion is a very insufficient means. The wants of man become multiplied to such an extent, that it is a matter of difficulty to supply his own necessities. It is only the beggar who renders himself dependant on another; but even he depends only on a portion of his fellows. There remains, then, exchange as the means the most prompt, the most certain, and the most practical to procure that of which an individual is in want, and which he knows not how to procure by his own labour. The more prosperous society becomes, the more numerous become his wants, and he is less able to satisfy them by his own labour. It is then that he stands most in need of the assistance of his fellows; and it is in vain to expect it from their benevolence; it is much more effectual to address himself to their personal interests. This is what he does who proposes to make an exchange. The meaning of his proposition is this:—Give me that which I want, and you shall have from me that of which you yourself stand in need. It is not from the benevolence of the butcher, the wine-merchant, or the baker, that we expect to obtain our dinner, but from the care with which they serve their own interests. We do not address ourselves to their humanity. It is not of our wants which we speak, but of their advantage. Exchange begins from the moment when men possess a variety of exchangeable things. This last circumstance is absolutely necessary as the condition on which exchanges can alone be made; for if every body possessed the same thing, or if every one was without some particular article, or, in fine, if the articles which each possessed were not of an exchangeable nature, exchanges would then be impossible. Thus the condition above-mentioned comprehends three others, which it is important to explain. 1. Exchanges suppose the existence of property. An article which does not belong to any one cannot become an article of exchange. In the social state, everything which can be appropriated belongs to some one; consequently, it is only by means of exchange that individuals can procure that which they do not possess, or are unable to produce. 2. Exchange also limits itself to things capable of being transmitted. Only material things and human labour possess this capability. The first comprises the land and the productions of the three kingdoms of nature; the second the works of man formed or composed from these productions. 3. But to create exchange it is not sufficient that things should be exchangeable only:—it is requisite that they should exist in great variety. If the labour of each individual sufficed to satisfy all his wants, and if every bit of land produced all things, exchange would not be possible;—each individual would already possess that which another offered him. But happily it is not thus. Nature having connected the prosperity and civilization of the human race with exchanges, it has taken care to render them necessary and inevitable. The different dispositions that exist among men occasions their labour to be directed to varied objects; and the peculiar properties with which the earth is endowed produce likewise a diversity in its fruits. No man,—no country,—therefore, exists independent of another from the moment that artificial wants are awakened: all are forced to have recourse to each other, and thus all are compelled to exchange productions. The diversity of faculties causes the exchange of labour. In a tribe of hunters, all have an equal want of food, bows and arrows, &c.; but all have not an equal talent to pursue game, to make arms, to build huts, &c. In consequence, the skilful hunter furnishes game to him whose peculiar talent is particularly directed to a different occupation. Each labours according to his faculties. Each exchanges the labour which he is most skilful in performing against that which others perform better than he can do it himself. The more progress society makes, the more marked becomes the distinction in the various ways in which men employ their respective faculties. Wealth, habit, and education create an immense distance between men who, by their natural faculties, are placed on the same line. But this wealth and education would not have been possible without exchanges. Without them each would have been compelled to procure, by his own exertions, the means wherewith to satisfy his wants;—each would have had the same task to fulfil and the same labour to perform; and there could not then have taken place that great diversity of fortunes and occupations which alone give variety to the direction of men's faculties. It is thus seen that exchanges, which at first appear to be the effect of men's diversity of faculties, become also the cause of this diversity. The greater the amount of exchanges effected in a community, the more each individual is enabled to pursue that particular occupation for which he feels himself best qualified by disposition and taste—because it is then possible for him to satisfy all his other wants by exchange; and the more an individual confines himself to a particular employment, the more his talents for this occupation have the means of being developed and rendered perfect. — *Translated from Storch's Political Economy*, Vol. I., p. 67.

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HOGARTH AND HIS WORKS.—No. XIII.

The Election.—Plate IV.



The fourth and last picture of the 'Election' we may consider to have been in some measure forced upon Hogarth by his subject, which required this as the completion of the story which he had undertaken to relate. This possibly accounts for the circumstance that the present is perhaps the least interesting picture of the series. The artist has, however, made the most of his subject, and brought into very efficient combination the various circumstances which characterize (we dare not yet use the past tense) the variously-modified excitements of a popular triumph. The poll having closed, the members, according to a custom much better "honoured in the breach than the observance," are placed in fine chairs, and paraded through the town on the shoulders of men. This custom, so unutterably ridiculous in itself, involves some peril to the triumphant candidate, particularly when, as in the present instance, he happens to be corpulent in person. Perhaps the time has not yet come for popular feeling to be satisfied without this ceremony: but, if there must be a parade, we hope the practice, which now begins to prevail in large towns, of displaying the member in an open chariot, will ere long be universally substituted for the literal "chairing."

The scene represents the chairing of both the members. Only one of them is actually present, but the near approach of the other is indicated, in Hogarth's way, by his shadow on the wall of the court-house. The uproarious character of the proceedings is perhaps partly accounted for by the apparent fact that members of opposite principles have been elected. The confusion in the fore-ground is, however, to be distinguished from that in the back-ground. The latter seems merely a party uproar, whilst the former is the result of accident. The uproar appears in its progress to have alarmed a sow and her litter, which therefore set off at the top of their speed, effecting a very serious derangement of the procession in their progress. They have just overturned one old woman, and are about to terminate their career in the stream over which the first part of the procession is at the moment passing, or rather where it is detained by the obstinacy of an ass, which resists the efforts of its rider to turn it out of the road, and stands stock still. A dancing bear, with a monkey *chaired* on his shoulders, avails himself of this desirable opportunity of exploring the contents of the garbage buckets carried by the ass. The bear-leader, a sailor with a wooden leg, was preparing to withdraw his animal from the road, when he was interrupted by the necessity of defending himself against a thresher, who has pursued the pigs from the farm whence they started, and who is apparently angry with the sailor on account of the obstruction which his bear has occasioned on the bridge, in consequence of which the pigs run into the water. The thresher's flail, however, inflicts injury where not intended; the swing of the implement throws it so back as to strike one of the bearers of the chair on the temple, in consequence of which the member is on the point of being overthrown, unless we suppose the man who endeavours to uphold the chair to have succeeded in his object. This accident affects the nerves of the young lady who is looking over the church-wall at the procession, and she is represented fainting amidst the solicitude of her attendants. It was possibly intended by Hogarth to magnify the absurdity and alarm of the member's momentary position by bringing into the scene the lady whose feelings were the most tenderly connected with his triumph and safety. This group of females is contrasted not only with the general scene, but with the chimney-sweeps close by, who appear highly to enjoy the uproar, and who unintentionally moralize mischief by fixing a pair of spectacles over the eye-holes of the death's head.

The series began with feasting in all the fulness of detail; the feasting and drunkenness with which the affair is to end, is only implied in the present picture. One barrel of beer has already been consumed by the rabble, one of whom prostrates himself to suck up the dregs, while the men beyond him are producing a fresh supply. In the large and handsome house on the same side of the picture—which belongs to a lawyer, as appears from the clerk at his desk in the upper story—preparations are making for more refined excess. A dinner of many covers is carried into the house for the entertainment of the gentry, who seem to have assembled there to celebrate the triumph of their favourite candidate. Among the persons assembled at the window, the one distinguished by his ribbon is the Duke of Newcastle, a celebrated nobleman of Hogarth's day, who was accustomed to interest himself personally in elections to an extent which would not now be considered seemly.

We should perhaps direct attention to the punning motto on the church-dial, "We must"—the sentence is supposed to be completed by the name of the dial,—"die all." A story is told of a gentleman who, not perceiving the point, such as it is, of the motto "We must," in its peculiar application to a dial, transferred it to a clock fixed on the front of his house.

The fray in the back-ground seems to have been attended with some bloodshed; for the soldier who has retired from it, and is putting on his shirt at the right hand corner of the picture, has his head bandaged, and a broken sword lies near him. Among the figures in the back-ground, nearly undistinguishable from distance, the woman beating—probably driving home her husband, the butcher with his marrow bone and cleaver, and the motto "Pro patria" in his cap, and the wounded man near him, are the most remarkable. The two latter characters we noticed for the sake of introducing Hogarth's own ironical remarks in reference to them, with which we may not unsuitably conclude this article:—

"These two patriots, who, let what party will prevail, can be no gainers, yet spend their time, which is *their* fortune, for what they suppose right, and for a glass of gin lose their blood, and sometimes their lives, in support of the cause, are, as far as I can see, entitled to an equal portion of fame with many of the emblazoned heroes of ancient Rome. But such is the effect of prejudice, that though the picture of an ancient wrestler is admired as a grand character, we necessarily annex an idea of vulgarity to the portrait of a modern boxer. An old blacksmith in his tattered garb is a coarse and low being:—strip him naked, tie his leathern apron round his loins,—chisel out his figure in freestone or marble, precisely as it appears,—he becomes elevated, and may pass for a philosopher or a deity."

As these remarks were intended to be satirical, we must make some allowance for their not being perfectly just.

FIRES IN RUSSIA.

As houses in Russia are in general built entirely with timber, fires are very frequent, and necessarily involve the danger of more extensive desolation than is likely to take place where the buildings are of less combustible materials. The fire by which the town of Tula was desolated last year affords an instance to which nothing similar, as to the extent of destruction, has occurred in this country since the great fire of London. It may therefore be interesting to state some of the usages which prevail, in cases of fire, in the towns and villages of a country thus peculiarly circumstanced.

In places where there are no fire-engines, or where the supply of water is not abundant, or cannot be made available at the moment, the most usual and effective process is to pull down some of the houses which inter-

vene between the fire and the direction in which the flames are impelled by the wind. In point of fact, this seems a far more effectual process than the employment of engines. In passing through Russia the writer generally observed that fires were most destructive in towns possessing engines and a good supply of water, on which dependance had been placed for the extinction of the flames: whereas in villages destitute of these apparent advantages the progress of the flames was, in most instances, intercepted by a prompt resort to the above process. In the other cases it is only resorted to after the engines have been tried, and have failed to bring the flames under; and by that time it is sometimes too late to employ with effect the process by which the progress of the fire might easily have been checked in the first instance. The writer, among other cases, observed that at the town of Vishnei Volotchok, which possessed engines, a long line of the best houses in the place, fronting a fine navigable river, had been recently burnt down. Afterwards, while waiting a day or two at the village of Catherinengard for the assembling of the Caucasus caravan, a fire broke out at night with great fury in the house of a shop-keeper. As there were no fire-engines, and as the fire was at a considerable distance from the river, which there flowed through a deep channel and was of difficult access, the strangers were fully prepared to expect that the half of the village which lay between the fire and the river would be completely destroyed, as the breeze blew in that direction. But the people and soldiers set to work with great energy in pulling down the house next to that which was on fire, and in the morning it was found that the injury had been limited to the house in which the fire commenced and that which had been taken down. Such water as could be procured was thrown upon the flames in the one house, while another party was employed in taking down the next.

It should be mentioned that, at least in some parts of Russia, the inhabitants entertain the superstitious opinion that nothing is so effectual as milk in extinguishing fires which have been kindled by lightning. Hence fires which thus originate are far more destructive than any others: for in consequence of the small quantity of milk which it is possible to procure, whole villages are destroyed which might probably have been saved by a plentiful supply of water, and still more probably by the process to which we have just adverted. This superstitious fancy also prevails in some parts of Germany.

There is perhaps in no place a more remarkable regulation for the prevention or extinction of fires than that which is in force at Tsherkask, the capital of the Don Cosacks. On a board which is hung out in public view at each door are painted figures of the instruments which each housekeeper is bound to have in readiness and to attend with when a calamity of this description occurs. Thus, for instance, at one door is painted the representation of a hatchet; at another that of a water barrel; and at a third that of buckets, crow-bars, ladders, or other requisites. On the first alarm of fire the housekeepers are expected to attend at the spot with their respective apparatus as denoted by the figures at their doors. Thus an adequate supply of all the articles which may be wanted on such occasions is secured; and in the absence of organized fire-establishments, perhaps a much better plan than this could not be devised.

In Moscow there is a regular establishment for extinguishing fires; and in appearance, if not in efficiency, it is probably not exceeded by any single establishment in Europe. The building which forms its head-quarters is a large edifice of three stories, surmounted by an elevated watch-tower; it has two wings, and the internal square is surrounded with excellent and extensive stables, smiths' shops, houses for the fire-engines, waggons, and fire-apparatus, and with dwellings for the police and the firemen. Everything is there kept in the best order: the houses are good, the engines are excellent, and always in readiness to be started at a moment's warning in cases of fire: the horses also are mostly fine animals. In summer the whole regiment of firemen, horses, and fire-apparatus is turned out to exercise and *to water the roads*. When grand entertainments are given by the court or by the nobility, the fire-engines and apparatus, the firemen, and the police, are all stationed around the building.

This establishment looks better than it acts. In St. Petersburgh the system pursued more nearly assimilates to our own, and is really much more effective than that of Moscow. The whole establishment is under the control of the police, and the fire-engines, which are precisely similar to our own, are kept in constant readiness at the several police stations. The number of these engines is very considerable, and the firemen form a regiment regularly trained and marshalled. A uniform process is followed in every case of fire. As soon as the watchman upon any of the towers discovers a fire, and by certain stipulated signals has indicated the district in which it is raging, the fire-engines start from every station in the city, and proceed to the spot in a given number of minutes, which is regulated for every station in proportion to the distance which it happens to be from the fire. Each of the police stations sends two fire-engines; a third carriage conveys the firemen, four others are laden with large tanks of water, and another follows laden with fire-ladders and escapes. The principal functionaries of the city and of the police are bound to give their personal attendance on the least alarm of fire.

It is only within these few years that a Fire Insurance Company has been established at St. Petersburgh. Dr. Granville inf[illegible] us that, until the foundation of this company, houses in the Russian capital were commonly insured in the Phœnix Fire-office in London, which furnished the model on which the new establishment has been formed, with some difference as to the mode of effecting insurances. He adds:—"The establishment being without competition for the present, must necessarily succeed, and ultimately prove very lucrative to the subscribers. The emperor has ordained that the statutes of the company shall be published throughout Russia; and has secured to it exclusive privileges, granted for the space of twenty years, and exempted it from all taxes except a fine of twenty-five kopecks (paper), 2½*d.*, upon every thousand roubles insured. The policies of insurance are also declared to be legal representatives of real and substantial property insured; and, as such, they are to be received in courts and at the banks. This company has issued* shares to the amount of ten millions of roubles, each share being for one thousand roubles. None but subscribers virtually and permanently resident in Russia were admitted to take shares, and no distinction was made as to rank or condition of society with regard to shareholders. The founders reserved to themselves 1900 shares, and 8100 were sent to the market: of the latter, 3000 were for such persons as took from 101 to 200 shares at one time; 3000 for those who took from 51 to 100 shares; and 2100 to those whose number of shares at any time did not extend beyond 51. Twenty per cent. was paid at once on the subscribed number of shares; and the profits were to be equally divided among all the shareholders †."

Such is the first fire-insurance office in the Russian empire. After this statement of the combustible cha-

* This was written in 1828.

† Granville's St. Petersburgh, vol. ii. p. 461.

racter of Russian houses, it might be supposed that the inhabitants in general would be more than commonly anxious to preclude danger from fire, and would exhibit much caution in the use of that which is required in manufactures and domestic affairs. The writer himself, however, is unable to recollect that any instance of this struck his attention in the course of an extensive journey through Russia. Dr. Clarke, however, relates that, at Dedilof, which had often been reduced to ashes, the inhabitants dreaded the very sight of a tobacco-pipe. Seeing him kindling his pipe, the *Starosta* of the place came to him to request that he would not use it, especially in the open air, as a casual spark might again involve the inhabitants in flames.

Currency.—The common currency at Shendy is the same as that at Berber, viz., Dhourra and Dammour. Slaves and camels are generally bought with dollars, or whole parties of slaves are bartered for Egyptian and Souakin merchandise. Of dollars those are only current that are coined in Spain. None pass current but those with the inscription 'Carolus IIII.'; and these numerals, or lines, must be visible upon the dollar to make it pass at its full value. They say that the dollars with 'Carolus III.' must be of less value because they have only three lines, whence they are estimated at one-sixth below the real value. Those coined under the Ferdinands lose one-third. Austrian dollars are not taken at all. During my stay at Shendy, I found a blacksmith secretly employed in adding a I to the dollars of Charles III., for which he received two measures of dhourra per dollar. This distinction of the numerals, it is said, was first made by the Bedouins. As it is known among the merchants here, little inconvenience arises from it. Gold coins have no currency.—*Burckhardt's Travels in Nubia*, p. 289.

Reward and Punishment in Schools.—A teacher can render almost anything a reward or a punishment to his pupil by his own manner of considering it. For instance, I once had an empty seat placed at my side in the school. I soon perceived a child that was mischievous and idle. I said, 'Come here and sit by me, you are too naughty to sit among good children;—I cannot trust you at a distance from me till you are better.' The child cried bitterly at what he deemed a punishment, and soon behaved well enough to resume his former seat. Not long after, I saw another whose diligence and attention gave me peculiar pleasure. I called him, with a smile, to sit on the *same seat.* 'Come to me,' said I; 'I love to have you near me when you are so good.' The smiling happiness of the child sufficiently testified his comprehension of the *spirit* of my arrangements. —*American Annals of Education.*

ENGLISH REGAL ARMS AND SUPPORTERS.

Various have been the conjectures and investigations concerning the origin of heraldic arms, which has been attributed to æras and countries the most remote. It has been even asserted that the children of Israel displayed the ensigns of their fathers on their tents, each family having some device to distinguish it from others of the same tribe. The Emperor Charlemagne is said, by the writer of his life, to have been the great regulator of armorial bearings; while others attribute their introduction to the Emperor Frederic Barbarossa. The partisans of the well-known Guelphs and Ghibelines were distinguished by such devices. But Camden and most other writers conclude that the estimation in which armorial bearings were held commenced in the expeditions to the Holy Land; and it was soon considered an especial honour to bear arms that had been displayed, even by an ancestor, in that holy service, if the bearer could not boast the still greater distinction of having been himself a Crusader.

It is certain that, from time immemorial, symbolical marks were used, for the sake of distinction, in armies, and to ornament shields and ensigns. But they were, as devices and emblems, assumed according to the fancy of the bearer of the shield or ensign, and were not hereditary marks of the nobility of a house; and the rank of a man was not then estimated, as it is at the present day in Germany, according to the number of heraldic quarterings in his shield. Some of the earliest specimens of hereditary bearings appear on the shields of the reign of Henry I. In that of Richard they had become much more common: but their hereditary use was not established till the time of Henry III., before which period the arms of the son frequently varied from those of the father. Armorial bearings are found on seals as early as the seventh and eighth centuries; and, in the thirteenth century, arms on plate were in use. The first instance of their being sculptured on sepulchral effigies is of the date 1144, in the Temple Church, London, where may be seen several curious monuments of the once-powerful and famous Knight Templars. The arms on the tomb of Pope Clement IV., who died in 1268, is an early instance of this practice, if it be not, as some suppose, an addition of later date. The practice of quartering arms was introduced into England by Edward III. Blazoning, the attitudes of animals, and the grotesque delineation of monsters, owe their origin to France; and to that country we are probably indebted for punning arms, which were in fashion in the reign of James I. An instance of this occurs in the case of Sir Peter de Vele, or de Vitulis, who bore calves on his ensign.

By the ancient practice of Europe, unmarried women placed their paternal arms in a lozenge. The popes had no arms till Boniface VIII., who began his pontifical reign in 1295. The use of crests, or cognisances, was, for many centuries, confined to royal use. Fulk, Earl of Anjou, grandfather of Henry II., bore the broom-branch (Fig. 1) in his penitential pilgrimage to the Holy Land; hence the name of Plantagenet from *Planta genista*, the Latin name of this shrub, which was also the cognizance of Henry II. and Richard II. About the fifteenth century, cognisances became universal: minstrels wore them suspended by a silver chain; and the servants of each noble were distinguished by having the cognisance of their master fixed on the arm, a relic of which practice is still exhibited in the badge of the London firemen, and the watermen of the city companies on the Thames. The sleeve-badge for servants was left off in the reign of James I.

Fig. 1.

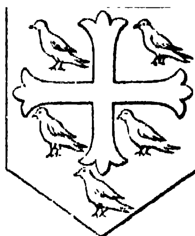


The colours of liveries may in some sort be regarded as distinctive badges. The royal liveries of the later Plantagenets were white and red; those of the House of Lancaster were white and blue, while the colours of the House of York were murrey (dark red) and blue. The liveries of the House of Tudor were white and green; those of the House of Stuart and those of George I., yellow and red. In all the subsequent reigns, they have been scarlet and blue. The liveries of the different younger members of the royal family of George III. were crimson until the accession of William IV., when they were changed to scarlet. Families often had, and still have, their liveries the same colour as their bearings. Animals are considered the most noble bearing, and next to these are birds, and particularly wild and ravenous birds; fish are lower still in the scale of heraldic dignity, on account of their being posterior to either of the former in the order of their creation. It is a rule in heraldry that animals, birds, &c., are to be considered according to their best and most noble qualities: thus a lion or a fox do not represent savageness or theft; but majesty and nobleness are typified by the former, and wit and cunning by the latter.

The following is a statement of the changes that have been made in the arms and supporters of our

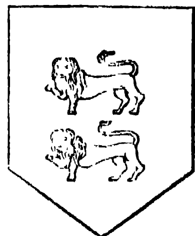
different monarchs, by which it will be seen that some change took place in a great proportion of the reigns. A knowledge of this is useful in ascertaining the dates of ancient buildings, &c., on which the royal arms are frequently to be seen.

Fig. 2.



Edward the Confessor (1041): his arms were a cross fleurè between five martlets, or doves. (Fig. 2.) Some antiquarians have doubted whether these arms were ever used by this monarch, and have supposed them to be a modern invention.

Fig. 3.



William the Conqueror (1066), William Rufus (1087), and Henry I. (1106), bore two lions; and their shield, in heraldic language, would be thus described: —gules (red), two lions, passant gardant, or. (Fig. 3.)

Fig. 4.



Stephen (1134). A Sagittarius, which he is said to have adopted because he entered England when the sun was in that sign. (Fig. 4.)

Henry II. (1154). Three lions, which are the present English arms. (Fig. 5.)

Fig. 5.



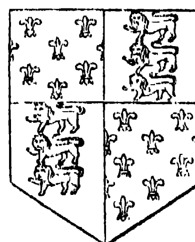
Richard I. (1189) bore the same arms; and he assumed the motto "*Dieu et mon droit*" after an important victory at Gysors. His cognisance was the broom-plant (Fig. 1).

John (1199), before he was king, used two lions, and afterwards three,—the present arms of England.

In the reigns of Henry III. (1214), Edward I. (1272), and Edward II. (1307), no alterations were made.

Edward III. (1327.) His arms, after the fourteenth year of his reign, were quartered with those of France; not as at a later period, but a number of fleur de lys were scattered over the shield, which is called by heralds "semé." (Fig. 6.) It is stated by some writers that this monarch, and not Richard I., first bore the motto "*Dieu et mon droit.*"

Fig. 6.



Richard II. (1377) bore the same arms as his predecessor, but sometimes he quartered with them the arms of Edward the Confessor. At other times they were on a separate shield, of which his arms on Westminster Hall are an instance. His supporters were angels; and he was the first English king by whom they were used.

Henry IV. (1399) quartered his shield;—the first and fourth compartments each having five fleur de lys, and the second and third the English lions. His supporters, according to some antiquaries, were two angels, but, according to others, a lion and an antelope.

Henry V. (1418). The same arms as his predecessor, except that he reduced the fleur de lys to three, in imitation of Charles VI. of France. His supporters were antelopes, and his motto "*une sans plus.*"

Henry VI. (1422) used the same arms and supporters. This king was the first that used the arched crown.

Edward IV. (1461). The same arms, surrounded with the garter, with a black bull and a white lion for supporters. The white rose, so celebrated in the wars of York and Lancaster, is found in many painted glass windows of buildings of this reign.

Edward V. (1483). The same arms, with a white lion and a white hart for supporters, and sometimes a leopard instead of the latter.

Richard III. (1483). The same arms, with two boars, or a bull, on the right hand, and a boar on the left, for supporters. Richard's cognisance was a boar, whence the old saying—

> The Rat*, the Cat*, and Lovell the dog,
> Govern old England under the Hog.

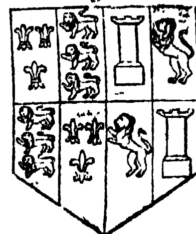
Henry VII. (1485). The same arms, with a red dragon and a greyhound for supporters. This monarch, by his marriage with Elizabeth of York, united the parties that had borne the red and white roses.

Henry VIII. (1509). This king's arms and supporters were, in the early part of his reign, exactly the same as those of Henry VII.; but afterwards his supporters were a lion crowned, and a red dragon.

Edward VI. (1547). The same arms, with a lion and a griffin for supporters.

Mary (1553). The same arms; but, after her marriage with Philip of Spain, she impaled (that is, had side by side with her own arms) the arms of Spain, which are quarterly;—first and fourth, a castle, second and third, a lion rampant. (Fig. 7.) Her supporters were a greyhound and a crowned eagle, or an eagle and a lion rampant, with the motto "*Veritas temporis filia.*"

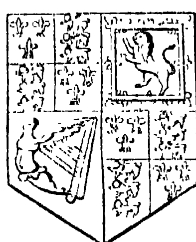
Fig. 7.



Elizabeth (1558). The same arms as Edward VI. This queen, according to Fosbrooke's 'Encyclopædia of Antiquities,' added the harp for Ireland; but in almost every instance her arms, both on buildings and coins, are without it. Her supporters were a lion and a red dragon, her motto sometimes "*Semper eadem,*" and her devices were without number; indeed, so fond was she of allegorical allusions, that the pattern of her dress, in some of her pictures, is eyes and ears, and her ornaments serpents.

James I. (1603). This king made great alterations in the arms. The first quarter of his shield was divided quarterly, the first and fourth bearing the arms of France, the second and third, England; the fourth large quarter was the same as the first; the second large quarter contained the arms of Scotland; and the third the harp for Ireland. (Fig. 8.) His supporters were a lion and unicorn, and his motto "*Beati pacifici.*"

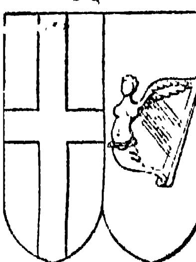
Fig. 8.



Charles I. (1625). Exactly the same as the preceding.

(1649). The Commonwealth did not adopt the royal arms, but used instead two long shields; on the dexter, or right, shield was a St. George's Cross, and on the sinister, or left, a harp. (Fig. 9.) The motto on the coins was "*God with us.*"

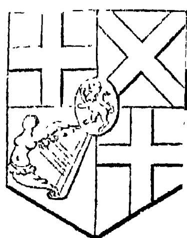
Fig. 9.



* Ratcliffe and Catesby, the well-known instruments of Richard's alleged atrocities.

(1653). Oliver Cromwell's shield was divided quarterly. The first and fourth quarters contained a St. George's Cross, the second a St. Andrew's Cross, and the third a harp. In the centre of the shield, in a small oval like an escutcheon of pretence, was a lion rampant, Cromwell's private arms. (Fig. 10.) On some of his coins was inscribed "*Pax quæritur Bello*," and on the rim of his crown pieces "*Has nisi periturus mihi adimat nemo.*"

Fig. 10.



Charles II. (1660), and James II. (1685), used the same arms as James I.

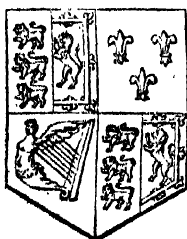
William and Mary (1689), also the same as James I.; but in the centre of the shield a lion rampant on a field, semé of billets for Nassau. (Fig. 11.) The motto of William was sometimes "*Dieu et mon droit*," at others "*Je maintiendray*,"—as in the window of Lincoln's-Inn Chapel. The coins of William and Mary have two heads on the obverse, as have those of Philip and Mary.

Fig. 11.

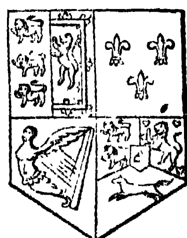


Anne (1702). The arms were the same as those of James I. till the union with Scotland, after which the arms of England and Scotland were impaled in the first and fourth quarters. France occupied the second quarter, and Ireland the third. (Fig. 12.) Her motto was sometimes "*Semper eadem.*"

Fig. 12.



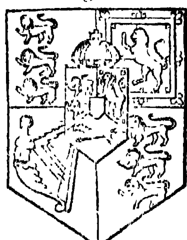
George I. (1714). The same arms as before, except that the fourth quartering contained the arms of Brunswick, instead of England and Scotland impaled. (Fig. 13.)



George II. (1727). The same as the preceding.

George III. (1760). The same, till the union with Ireland, when the arms of France were omitted. Then also the first and fourth quarters were for England, the second for Scotland, the third for Ireland; the centre of the shield being occupied by an escutcheon of pretence, containing the arms of Brunswick surmounted by an electoral crown. In 1814, when Hanover was erected into a kingdom, the electoral crown was changed to a royal one. (Fig. 14.)

Fig. 14.



George IV. (1820), and William IV. (1830). The same as the preceding. The supporters of the royal arms, under all the monarchs since James I., have been the lion and the unicorn; and all the kings of the House of Brunswick have used the motto "*Dieu et mon droit.*" The motto of George IV., when Prince of Wales, consisted of the two German words "*Ich dien*" I serve). It was first assumed by Edward the Black Prince, who is said to have taken it from John, King of Bohemia, whom he slew at Cressy.

TORQUAY, DEVONSHIRE.

TORQUAY is situated in a sheltered cove in the north-east angle of Torbay, at the distance of twenty-three miles from the city of Exeter, thirty-three from Plymouth, and fourteen from the southern borders of Dartmoor. Torbay is the largest bay on the coast of Devonshire. It lies midway between the rivers Dart and Teign, bounded by Hope's Nose on the north-east, and by the Berry Head on the south, and forms an irregular semilunar outline of about fourteen miles in circumference. The shores of this fine bay are formed by a series of cultivated hills, varying in height from 100 to 500 feet: these hills in general slope gently to the shore, although at times they rise above the coast with a rugged and abrupt appearance. Torquay and Brixham, well known as the landing-place of William III., are the only towns on the coast of Torbay; about midway between them on the western shore is the village of Paignton, the ancient residence of the Bishops of Exeter.

The cove in which Torquay is situated is formed by three limestone hills of about 200 feet in height, between which run two valleys, one towards the romantic hamlet of Babicombe, the other towards the village of Tor Moham. Torquay is built in streets and terraces along these hills, on the shores of the cove, and in the valleys; many houses, however, are built as villas on the rising grounds, and are surrounded by distinct plantations. This peculiar formation gives Torquay a singularly romantic and picturesque appearance.

It is only within the last half century that this town has attained any consequence as a resort for invalids. Although abounding in objects of great natural attractions, it was known only as a fishing village, and little frequented by the tourist, until the late Sir Lawrence Palk brought it into notice, by the erection of the present pier, by the establishment of an hotel, and by affording encouragement to the building of commodious houses. Opportunities being thus afforded of investigating the character of the climate and the merits of the place as a winter residence, the fame of Torquay was soon established as a suitable resort for invalids labouring under pulmonary diseases. Its sheltered situation from the north and east winds, the mildness and steadiness of its temperature, the extent of its exercise-ground, and its comparative freedom from the sea fogs which prevail so much along the southern shores of England, render Torquay superior to all the other watering-places on the coast.

The climate of Torquay is a subject of so much importance both to the invalid and the medical philosopher, that we regret that our limits are too brief to allow us to enter upon it here as fully as we could have desired. The mean temperature of the six winter months, from November to April inclusive, during the seasons 1829-30, 1830-31, and 1831-32, was 46° 48′. The mean monthly range of temperature, as deduced from the observations made in the above seasons, is 26° 1′; the mean daily range about 4°. The variation between the minimum of the night and the temperature of the following morning at eight o'clock, during the entire season, is 3° 15′; and during the three winter months only 2° 29′. The highest temperature noticed in the six months at 2 P.M., during the severe season of 1829-30, was 66°; the lowest, by the register thermometer, 20°: during the season 1830-31, the highest was 64°, the minimum 21°; and during the season 1831-32, the maximum was 67°, and the minimum 30°. The temperature of the springs around Torquay is about 51° during the winter season *. The prevailing winds are west and south-west; the latter continues for a considerable time

* 'Panorama of Torquay; a Description and Historical Sketch of the District between the Dart and Teign.' By Octavian Blewitt. London, 1832.

during the greater part of the year: from the north and east the town is well protected by the hills around the cove. The sun's rays, being concentrated as it were by these hills, have considerable power, and contribute largely to the increase of the winter temperature; this effect, however, during the summer months renders the heat of the town exceedingly oppressive.

The situation of Torquay at the opening of an extensive series of limestone hills, and its position between two considerable rivers, are generally considered to render its atmosphere drier than the other towns of South Devon. The land soon parches after rain, and the roads so quickly regain their dryness, that the invalid, almost immediately afterwards, may walk abroad with comfort and enjoy the sea-breeze within a few yards of his own door. The extent of sheltered country around Torquay adapted for exercise-ground for the invalid, is very considerable; the sands are firm in the different coves and bays; and there is scarcely a wind from which some part of the district is not protected,—so that it is in the power of the invalid to take exercise on horse or foot, at all seasons of the year, in the midst of a country abounding with landscapes of unrivalled beauty. The class of patients who select Torquay as a winter residence are chiefly those affected with pulmonary diseases; and to these the mild and soothing climate appears to be particularly adapted. It is, however, a subject of just regret that few patients are sent into Devonshire at a period of the disease sufficiently early to insure to them the advantages which the change is capable of affording. Much more discrimination is necessary in deciding on a change of climate than is usually imagined; the time, the place, and circumstances, are no less deserving of attention than the measures to be adopted by the patient during his residence in the place selected. In the early stages of that morbid condition of the system which terminates in consumption, Torquay has been highly beneficial; and it is due to Dr. James Clark, the author of 'The Influence of Climate,'—one of the most valuable and philosophical works which we possess,—to state that, since the publication of his admirable views on this subject, the class of consumptive patients sent annually to Torquay have been more judiciously selected than in former times. It is the opinion of Dr. Clark that, in consumption and chronic bronchitis attended with an irritable state of the affected parts, Torquay and Undercliff are the best situations in England to which the invalid can resort; and, in regard to the extent of exercise-ground, Dr. Clark also considers Torquay "superior to every place in our island*."

It would occupy too much space to give a list of the plants indigenous to Torquay, although it would afford a good collateral illustration of the mildness of the climate. The same reason also prevents our introducing a catalogue of the conchology and marine productions. Among the tender exotics which are hardy in the gardens at Torquay are the Agave Americana, Cassia Capensis, Citrus Medicus (citron and lemon), Laurus Camphora, Yucca Aloifolia, Y. gloriosa, &c. The citron has produced fruit in the open air at Torquay measuring 24¾ inches in circumference. The myrtle flourishes luxuriantly throughout the entire district; it attains a very large size, and is proverbial for its longevity. The cottages in the surrounding villages are frequently grown over with roses, which require no shelter in the severest winter.

The population of Torquay is somewhat below 3000; the total population of the parish, according to the last census, was 3582. During the 18 years preceding 1830, there were 582 burials in the parish, 142 of which were those of persons who died at 60 years of age and upwards. Of this number 47 were persons above 80, and 5 above 90. The ratio of the total mortality to the population in 1830 was 1 to 64·25.

The geology of Torbay comprises two formations,—transition limestone and new red sandstone. Along the west and south-west coast of the bay, the shores are composed of red sandstone, the strata of which have been much disturbed and hollowed out by the action of the sea. On the eastern side of the bay, this rock is covered by argillaceous shale, containing fragments of encrinites. The hills immediately around the northern shores are composed of transition limestone, varying in colour, abounding in caverns, and containing numerous remains of shells and madrepores. This limestone is of great value, being extensively employed in buildings, and, when burnt, it constitutes one of the staple commodities of the country for agricultural purposes. From the great variety of its tints, and the high polish of which it is susceptible, the marble of Torquay and Babicombe is also much used for ornamental purposes. The soil, for many miles around Torbay, consists of a rich, dark-red, clayey loam.

In the limestone-chain, about a mile from Torquay, is Kent's Cavern, so justly celebrated for the fossil-bones which it contains. The floor of this cave was first broken, in 1824, by Thomas Northmore, Esq., of Exeter, who investigated it for the purpose of establishing its character as a Druidical temple. Mr. Northmore found it to contain the baptismal lake of pellucid water, the creeping path of stone-purification, the oven-mouth, and the mystic gate of obstacle,—the essential elements, if we may so call them, of a Mithratic temple; and is satisfied, from these and other circumstances, that this cave was once employed in the celebration of the Helio-Arkite mysteries. This opinion is, in some measure, confirmed by the British remains —such as flint-knives—which have been discovered in the stalagmite. The subsequent researches of Dr. Buckland, Mr. De la Beche, and others, but above all the indefatigable and most useful labours of the Rev. J. M'Enery, have contributed largely to our knowledge of the organic remains found in this cave, and have enriched our national museums with its treasures. The bones which have been discovered are principally those of the rhinoceros, hippopotamus, elephant, hyæna, cavern bear, elk, tiger, ox, horse, wolf, rat, &c. The hyæna evidently dragged his prey into this complicated den; indeed, bones have been found which were evidently gnawed by this animal. The length of Kent's Cavern is about 650 feet; the breadth varies from 2 to 71 feet; the height does not exceed 18. The entrance fronts south-south-east, and is about 5 feet high.

Torquay is the property of Sir Lawrence Vaughan Palk, Bart., and Henry Cary, Esq., of Tor Abbey. The public establishments are well adapted to the town. There are two excellent hotels, a well-supplied market, a bank, a mechanics' institution, a national school, a book society, and reading-rooms. There are two Episcopalian chapels, a Roman Catholic chapel, and meeting-houses for the Wesleyans, Baptists, &c. The Roman Catholic chapel occupies the ancient refectory of Tor Abbey.

The commerce of Torquay is not very considerable. It has some share in the Newfoundland and timber trade, and maintains regular coasting vessels between the great ports. Torquay has a regular communication with Portsmouth and Plymouth by means of a steam-boat, and with the southern watering-places by daily stages. It is not a post town, although it contributes considerably to the public revenue: the withholding of this advantage is a source of much annoyance and injury to the inhabitants.

* 'Influence of Climate in Consumption, &c.' See also the articles CLIMATE, CHANGE OF AIR, and more particularly the invaluable article on TUBERCULAR PHTHISIC, by the same author, in the 'Cyclopædia of Practical Medicine.' vol. iv.

The whole of the fine country of which we have here given a brief and rapid sketch is richer than any other English district of the same extent in botanical productions,—hence the botanist will find it a fertile field of research and inquiry. The antiquary will be equally interested in the Roman, Danish, and Saxon antiquities of the neighbourhood; and the geologist will not fail to derive from the surrounding country both profit and pleasure. The scenery of Torquay is deservedly celebrated for its soft and picturesque beauty; indeed it abounds with subjects for the pencil of the artist. The rock scenery of the coast is bold and varied; and from the surrounding heights the eye ranges over a wide tract of cultivated country, adorned with hedgerows and plantations, diversified by hill and dale, and bounded in the distance by the misty tors of Dartmoor.

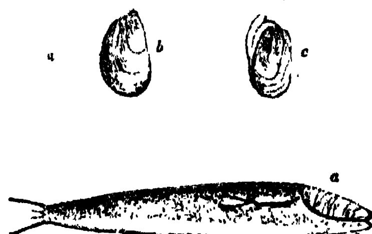
TURKISH SCHOOL.

Extract *from a letter from Bujukdere*.—" I was walking with two friends along the main-street of one of the adjacent villages, when a confused murmur of voices drew my attention. I found that it proceeded from a mosque immediately at our elbow, and upon inquiring whether we might venture to go in,—for no stranger is allowed to enter a Turkish mosque without express permission,—I was answered in the affirmative. Following the direction from which the noise proceeded, we mounted a flight of steps, and instead of finding ourselves launched into a place of worship, we discovered that we had made our way into a roomy apartment, containing tables near the walls, at which a number of Turkish boys of all ages were posted with book in hand. It proved to be the village school: and scarcely a better one, as I afterwards learnt, is to be met with in Constantinople itself. In one corner of the apartment we observed the master reclining upon a decent carpet; he was an old mullah, or ecclesiastic, with an enormous turban on his head, a long grey beard, yellow kaftan, and legs crossed in the true Turkish fashion. His left hand held a long pipe, which he was smoking; and his right lay quietly in his lap, except that it was now and then agitated by a fidgetty motion, as if something particular affected its owner. On his left we remarked a bag of tobacco, and in front of him a ponderous tome, probably the Koran; while an enormously long bamboo cane, which reached from the floor to the ceiling, stood against the wall on his right hand. He saluted us on our entrance with a nod of the head, but did not rise from his seat, or suffer his mouth to part for an instant from his pipe. The score and a half of urchins who were standing or kneeling, as their size required them, behind the tables, with carpets for their feet, were momentarily drawn off from their tasks by our appearance; but an involuntary glance at their master's brow, or perhaps some warning from the fingers of his right hand, which had not moved from his lap, set them all to work again. They appeared to be learning to read, and had certainly made considerable progress, as there was no spelling going on. All were reading rapidly, and as each of them was reading aloud, and none the same matter, I leave you to conceive the noise and confusion of tongues that filled the room. The bigger boys, or rather the wiser ones (for there were several little fellows among them), seemed to act as under-masters: for they were not reading, like the rest of their comrades, but were hearing and correcting them, and this not merely by word of mouth, but with the assistance of certain very unceremonious boxes on the ear. One diminutive urchin in particular, who was [illegible] *lapsus linguæ*, made no [illegible] fists, and directing them, might and main, at the [illegible]ace of [illegible] huge and seemingly incorrigible dunce, with whom he was playing the part of monitor; reckless, by the way, on what his blows fell, whether the giant's nose or his neighbour's. Throughout the whole scene, the pedagogue in the corner lay quietly smoking his pipe on his carpet as if he had not a limb to move. One of my companions, who had a quantity of burnt almonds in his pocket, in a fit of mischief suddenly let them loose in the middle of the room. It was worth a day's purgatory to see the rout which ensued: monitors and scholars with one accord dropped their books out of their fingers, and gave chase to the prey; and the whole lot would have been devoured in a trice, had not the old mullah's fingers found their way nimbly to the bamboo-cane, and without costing him the pains of uncrossing his legs, or even displacing his darling pipe, he belaboured the poor devils' backs with it in every direction; for there was not a corner of the room which could escape its cruel length. All ran back to their posts as if Jack Ketch had been at their heels, and we ourselves took to our heels and made a rapid exit into the street." You have here the model of a Turkish school before you.—*From the Journal of Education*, No. XVIII.

American Aphorisms on Education.—" Good instruction is better than riches," was the motto that William Penn, the illustrious founder of Pennsylvania, placed on the seal of a literary incorporation, granted by him 150 years ago. " In proportion as the structure of a government gives force to public opinion, it is essential that public opinion should be enlightened," said Washington. " A well-instructed people alone can be a permanently free people," said Madison. " Make a crusade against ignorance," said Jefferson.

THE SHELL-SLUG.

[From a Correspondent.]



[Shell-Slug, with the interior and exterior of its Shell.]

The Shell-slug of which the above is a representation, was recently found in a garden in Gloucestershire. When at its full length, it measured from an inch-and-a-half to two inches. The upper part of its body is of a pale colour, very thickly marked with exceedingly minute black spots, which unite in an irregular manner; and on the back are three dark stripes, which are more distinctly visible in some individuals than in others; and it is altogether much darker when collapsed, the light colour almost entirely disappearing. The under part of the body is of a bright salmon colour, more vivid in some specimens than in others. The greatest peculiarity in this slug is a small shell, *a*, resembling some of the smaller limpet shells, which covers the hinder end of the body: what purpose so small a shell answers, as the slug has not the power of retiring into it, we have not as yet a sufficient acquaintance with its economy to be able to determine. The shell, when separated from the slug, is semi-transparent. While in its natural position, its colour appears nearly the same as that of the back of the slug: *b* and *c* represent the exterior and interior of the shell when separated from the slug. These slugs are found in gardens about eight or ten inches below the surface of the ground; and they feed on earthworms. A worm, an inch in length, which was placed, in a box covered with glass, with three of these slugs, soon fell a prey to one of them; but a worm, three inches in length, writhed so violently when seized that it succeeded in getting away. Afterwards, it probably became impeded in its movements by the slime of the slugs; for in a few hours they had devoured it, as well as two others of nearly equal length. It was observed that two of the slugs made their repast at the same time at the two extremities of one of the worms These slugs appear to have been only lately discovered, and very little is at present known of their habits.

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THE EAGLE.



[Eagle's Nest.]

The Falcon genus of birds forms a very extensive division of the diurnal birds of prey. Upwards of a hundred and fifty alleged species have been described; but of these many are very little known, and not a few of them are mere varieties resulting from age, sex, or climate. Few of the species assume the adult plumage until three or four years of age; and this circumstance alone has occasioned many mistakes which cannot be corrected until the law which regulates the change of plumage in every instance has been ascertained. They are chiefly distinguished from the vulture tribe by having the neck and head covered with feathers, and by the prominency of the eyebrows, which gives to the eyes a sunken appearance. The female is, in almost every instance, one-third larger than the male.

In the present very unsatisfactory state of the divisions in this genus, we need only state that the eagles form a large section of the genus Falcon, and include not only the largest species which belong to it, but the most powerful and courageous of the birds of prey. They have a very strong beak, which is of considerable length, straight at its base, and bent only towards the point. The legs are strong and covered with feathers, even to the ends of the toes, which are armed with powerful and very crooked claws.

We shall confine the remainder of our statement to the Great Eagle, under which term we shall consider that there are included the following, which by different naturalists have been set down as distinct species:—the common eagle, the royal eagle, the golden eagle, the ring-tailed eagle, the white-tailed eagle, and the black eagle. Recent naturalists are disposed to consider that all these terms apply to the same bird under different circumstances. The male is about three feet long, and the female three feet and a half, the out stretched wings generally measuring between seven and eight feet; but these dimensions are sometimes exceeded. The female is not only larger but, in a state of freedom, appears to possess more courage and subtlety than the male.

In a clear sky, the great eagle soars to a vast height, but flies lower in cloudy weather. He rarely quits the mountains to descend into the plains; and whenever this does happen, it is generally in the winter season, as will appear from an examination of the dates at which eagles have been shot or captured in the plain country. His immense muscular power enables him to contend with the most violent winds. Ramond relates that, when he had reached the summit of Mount Perdu, the most elevated point of the Pyrenees, he saw no living creature but an eagle, which passed above him flying with inconceivable rapidity in direct opposition to a furious wind from the south-west. The flight of the great eagle is so high that the bird often ceases to be discernible by the human eye; but even at this distance its cry, which has been compared to the barking of a small dog, can still be heard; and such is the amazing

acuteness of its own sight that, when too high in the air to be visible to man, it can mark out a hare or even a smaller animal that may be upon the ground, and darts down upon it with an unerring aim.

This bird, with its bold glance, proud air, elevated flight, and strength of limb, combined so many of the qualities which are commonly esteemed noble, that he was called by the ancients the "Celestial Bird;" and, in their mythology, was the messenger of Jupiter and the bearer of his thunderbolts. Its figure in gold or silver upon the end of a spear, was the military ensign of the Romans and Persians. Modern potentates have followed the example; and, in heraldry, the figure of the eagle has been adopted as the emblem of power.

The great eagle, although nowhere a common bird, is very extensively diffused over the world, being found in the mountainous regions of Europe, in various parts of Asia, and in Africa (at least in the Atlas chain, for the species which have been met with by travellers generally in that continent have not been well defined): it is also found in North America, where, however, it is even more than ordinarily rare. It likewise appears in the mountains of Great Britain and Ireland, but not so commonly as supposed, because the osprey is often mistaken for it by common observers. It is of importance that when an eagle happens to be shot it should be examined by some neighbouring naturalist in order to determine the species. Of the several instances of eagles which in the course of years have been captured in this country, we select from the 'Annual Register' two or three which seem the most remarkable.

The largest specimen of the great eagle which, to the best of our knowledge, has ever been met with in England was that shot at Warkworth, in 1735, which measured eleven feet three inches across the outstretched wings.

In March, 1769, as some gentlemen were hunting near Lake Tay, in the county of Wicklow, Ireland, a large eagle hastily descended and seized their terrier. This being observed by some of the party, they encouraged the dog, who, turning on the eagle as it continued to soar within a few feet of the ground, brought it down by seizing a wing, and held it fast till it was secured by the gentlemen present. This bird measured seven feet across the wings.

On the 2nd of December, 1798, one was shot in a garden at Horsham. It was on the wing when observed, beset by upwards of a hundred rooks, whose noise attracted the notice of the person by whom it was shot while at a considerable distance, and gave him time to procure a loaded gun. It measured seven feet three inches across the outspread wings; and as it was but slightly wounded in the pinion, it was alive at the time the account was furnished.

On the 29th of November, 1804, an eagle was shot at Stockfield Park, near Wetherby, by the gamekeeper of the Countess of Aberdeen, in the grounds near the house. It received the shot of three discharges before it was secured; and even after being disabled it defended itself so powerfully as to elude every device of the gamekeeper for seizing it, till he thought of presenting to it the muzzle of his gun, which it seized and held so firmly as to hang suspended from it by the beak while he carried it home. It measured nine feet four inches between the extremities of the wings, and the beak, talons, and legs indicated a strength proportioned to these dimensions. It continued to live for some time after the capture.

Eagles cannot be tamed without great difficulty. European falconers stigmatised them as "ignoble" because they could not train them to assist in field-sports like the hawks, or "noble falcons." The Tartars, however, have been able to effect this; they take the eagles young, and train them to assist in the chase of hares, foxes, antelopes, and even wolves. Perhaps, however, the bird thus employed, which travellers call an eagle, is only a species of hawk, like the *cherkh*, which is similarly employed in Persia. A pamphlet was, some years ago, published by Professor Reisner of Germany, with the object of showing that eagles might be employed to direct balloons. He states the number of birds which would be necessary, according to the dimensions of the machine, and gives directions for the mode in which they should be harnessed, trained, and guided.

The following account of the eagle which was in the Garden of Plants, at Paris, in 1807, was copied from the French journals of the time into the 'Annual Register' for that year, and may be suitably introduced in this place. "There has been for some time in the Garden of Plants, an eagle, which her Majesty the Empress sent thither, and which is as much distinguished by his beauty as by a silver ring which he carries in one of his talons. It was originally domesticated with an English game-cock, which has at last served him for food. It is not known whether the death of the game-cock was produced by his own fierceness,—by some movement of anger,—or merely by the hunger of the eagle. The following is the history of the eagle since he lost his liberty. He was taken in the forest of Fontainbleau, in a trap set for foxes, the spring of which broke his claw. His cure was tedious, and attended by a painful operation, which was borne by the eagle with a patience not often exceeded in man. During the operation, his head only was at liberty, and of this he did not avail himself to oppose the dressing of the wound, from which several splinters were taken, nor did he attempt to disturb the apparatus which the fracture required. Swathed in a napkin, and laid on one side, he has passed the entire night upon straw without the least motion. The next day, when all the bandages were unwrapped, he lodged himself upon a screen, where he remained twelve entire hours without once resting on his unsound foot. During all this time he made no attempt to escape, though the windows were open. Yet he rejected all nourishment until the thirteenth day of his captivity, when he tried his appetite upon a rabbit which had been given to him. He seized it with his uninjured claw, and killed it with a stroke of his beak between the head and the first vertebra of the neck. After having devoured it, he resumed his usual place upon the screen, from whence he stirred no more until the twenty-first day after his accident. Then he began to try the wounded limb; and without in the least deranging the ligature by which it was bound, he has regained the use of it by moderate and reasonable exercise. This interesting creature has passed three months in the room of the servant who attended to him. As soon as the fire was lighted he came up to it, and suffered himself to be caressed; at bed-time he mounted his screen, as close as possible to the attendant's bed, but removed to the opposite extremity as soon as the lamp went out. Confidence in his own powers appeared to exempt him from any kind of distrust. It is impossible to show more resignation, more courage, and one might almost be tempted to say, more reason, than was exhibited by this eagle during the long continuance of his illness. He is of the most beautiful kind, and does not appear to experience the least weakness in consequence of the accident which robbed him of his liberty."

The female lays two, and sometimes, but rarely, three eggs annually, on which she sits for thirty days. The nest, which is called an "eyrie," is usually placed in the hollow or fissure of some high and abrupt rock, and is constructed with sticks of five or six feet in

length, interlaced with pliant twigs, and covered with layers of rushes, heath, or moss. It has no hollow, like the nests of most other birds, but is properly a raised platform. Unless when accidentally destroyed, it is supposed to suffice, with occasional repairs, for the same couple during the whole period of their lives. Sometimes the platform-nest is thrown across, between the edge of the rock and any suitable trees that happen to be near it. A nest of this sort is thus described by Willughby:—"In the year of our Lord 1668, in the woodlands near the river Derwent, in the Peak of Derbyshire, was found an eagle's nest made of great sticks, resting on one end on the edge of a rock, the other on two birch-trees; upon which was a layer of rushes, and over them a layer of heath, and upon the heath rushes again, upon which lay a young one and an addle egg; and by them a lamb, a hare, and three heath-poults. The nest was about two yards square, and had no hollow in it."

It is commonly said that the mother eagle frequently destroys the most voracious of her brood. There does not, however, appear to be the least evidence for the truth of this assertion. It is true, that scarcely ever more than two eaglets, and frequently but one, are found in the nest; but, until we have better evidence on the subject, we should, in justice, attribute this rather to the infecundity of the eggs than to the barbarity of the mother. It is more certain that the parents will not allow their offspring to live in idleness longer than necessary; for as soon as they can fly they are driven from the eyrie and left to shift for themselves. It is also observed that eagles are never disturbed by others of their kind in the continued occupation of the spot which they have fixed upon for their eyrie. These circumstances are finely alluded to by Thomson in his 'Spring.'

"High from the summit of a craggy cliff,
Hung o'er the deep, such as amazing frowns
On utmost Kilda's shore, whose lonely race
Resign the setting sun to Indian worlds,
The royal eagle draws his vigorous young.
Strong pounced, and ardent with paternal fire.
Now fit to raise a kingdom of their own,
He drives them from his fort, the tow'ring seat,
For ages, of his empire; which in peace,
Unstain'd he holds, while many a league to sea
He wings his course, and preys in distant isles.'

SOME RECOLLECTIONS OF THE EASTER HOLIDAYS IN THE SOUTH OF ITALY.

[From a Correspondent.]

In Catholic countries Easter relieves people from the long fasting of Lent, and is for that and many other reasons, at some of which I shall hint, an especially gay and genial season. The awful solemnities of the Settimana Santa, or holy week, during which the severities of penance are increased, and which immediately precedes Easter Sunday, give the charm of contrast to the festival in a degree unknown in Protestant countries, where (to the mass of the people) all times and seasons are pretty equal, except so far as they are affected by heat or cold, clouds, rain, sunshine, or other changes of weather. I do not intend to describe the holy week's solemnities, which are seen in their greatest and truly imposing perfection at Rome; nor have I for the present any wish of telling how Easter is kept among the wealthier classes, and in the different parts of Italy where the mode of the observances varies in a slight measure. My present recollections bear wholly upon the kingdom of Naples, and relate chiefly to the body of the people and to humble individuals who, as scrupulous observers of the fasts of the church, enjoy its feasts and holidays with greater zest than the upper classes, whose Catholicism, generally speaking, is much less strict.

From the hour of noon of the Thursday of the holy week, no wheeled carriages of any kind are allowed to be used in the cities and towns. All conditions of people, up to the court and king, must walk humbly on foot. The troops in patrole and the sentinels at their posts, all carry their arms reversed. The numerous church bells are all silenced, the market places deserted, the shops shut up, and all possible external means adopted that may denote a season of solemn silence, penitence, and humiliation. A Sunday at Naples is the noisiest of all days, but on the Holy Thursday and Good Friday I have seen that populous city as still as a Scotch town on the sabbath. In all the provincial towns, as well as in the capital, some of the principal churches are converted into sad and sometimes striking scenes. The light of day is excluded, and in the darkest recess or niche of the church there is the representation of a sepulchre, with the figure of our Saviour lying in it. All round the sepulchre the walls are hung with black cloth, while a few large wax torches throw a concentrated light within the body of the tomb, leaving all the rest of the church in a semi-obscurity, doubtful and vapoury, which is increased by the blueish grey smoke of the incense that is almost continually burning. If Protestant notions are opposed to such scenic representations, they ought to take no offence at the exquisite, solemn, and almost Divine music that is frequently performed on these occasions in the churches. The 'Stabat Mater dolorosa' of a Cimarosa, a Pergolesi, or a Paisiello, cannot be listened to by any man who has a soul within him, without profound and religious emotion; and to the deep impression made by such music on the poorest, least enlightened, and coarsest of the people, I have been witness a hundred times.

These churches are thrown open on the afternoon of Holy Thursday; and, until a late hour of the evening, are visited in succession by people of all ranks, who are blended together without distinction, and who all go humbly on foot—a religious commemoration producing for a time an almost perfect semblance of equality. The court, the nobility, the gentry, and now indeed the mass of the citizens of Naples, dress in deep black on this occasion, and the peasantry, who flock into the city in all directions, wear their best clothes. The Strada Toledo, or principal street, though quite as much crowded as I lately described it to be on a grand carnival day, presents as different an aspect as can well be imagined. Not a single wheel rolls over its rattling lava pavement—not a laugh, scarcely a voice is heard. All is hushed, except here and there, where the sounds of sacred music float through the open doors of a church, or when at nightfall the king and court walk back to the palace preceded by a crash of music.

On the following day (Good Friday) the ceremonies are continued with some additions, and on Saturday at noon the church bells are set again in motion. Coaches, gigs, carts, begin again to dash and roll through the streets, the shops are thrown open, the markets become crowded. Naples is the same noisy place as usual, the garments of mourning disappear, and whichever way you turn you see wholesale preparations for Easter feasting and jollity. The purveyors of all kinds of provisions have their hands full of business, but the butchers' and bakers' shops present the most curious scenes. In the former, lambs and young kids, sheep and quartered bullocks, partially covered over with flowers and tinsel, or gilding, such as we find on our gingerbread, are displayed with much effect; whilst in the bakers' shops heaps of a particular kind of bread, only used at this season, are piled up in full view of the public. The shops where eggs are sold in large quantities are also curious to behold, for all the egg-shells, instead of being white, are dyed red, by being dipped in a decoction, which, I believe, is generally made of log-wood: and hence arose the amusing mistake of a hurried tourist, who hap-

pening to be a day or two at Naples during Easter week, made "a brief in his note-book," that, contrary to the general habit of their species, all the Neapolitan hens laid red eggs.

I believe at one time this practice of dyeing eggs at Easter was common to all Catholic countries. In some districts in the north of England the custom of presenting the "Pasch-egg," which is an egg dyed or stained on the shell, to young people, at Easter-time, still obtains.

The Paschal, or Easter bread (called in the patois of the country *cassatielli*), used by the Neapolitans, is made in the form of a hollow circle, or ring, indented and roughened on the top and the outer sides, and held by them to be a pretty correct imitation, both in form and size, of the crown of thorns worn by our Saviour at his crucifixion. This rough circle is studded here and there with eggs, which are sunk in the dough with their shells on, and so baked in the oven with the bread. I never saw the preparation, or the materials mixed with the dough; but these *cassatielli* are beautifully white, rather sweet, and altogether very delicious bread.

There is also a curious dish used at this season, and meant to imitate the crown of thorns, at least in shape; this consists of a number of rings or hollow circles, about three inches in diameter, made of a thick kind of batter, and fried over a quick fire. These symbolical circles are called *zeppoli*. If I remember right, they make their appearance, like our pancakes, on Shrove Tuesday, and are eaten through all the Quarisima, or Lent; but they reappear among the good things of Pasqua, or Easter. But nearly everything eaten at this season, from the Paschal lamb to the household bread, has some reference to the mysteries of our religion. With what is considered an appropriate change of dishes, forms, and materials, the same thing occurs at Christmas, Whitsuntide, and the other high festivals of the Church. The Neapolitan *people* have tenaciously retained all these old customs, which have gradually been passing away in most of the other countries of Europe. They have still a running margin to their church rubric, in which they mark the dishes *d'obbligo*, or appropriate to each particular season; and thus, in the course of a year, they may be said to eat through a *course* of ecclesiastical chronology and belief. Even the very poorest make an effort to keep up these old usages, and often pinch their bellies for a week, in order to be able to feast on the proper ingredients at the next festival. The people of the capital—the Napolitani and mangia maccaroni par excellence—who are rather notorious for their improvidence, occasionally make too great sacrifices on this head. I have known a fellow sell his only jacket to buy zeppoli and spezrato at Easter; and have heard of another who took the bed from under him that he might feast upon *capitoni*, or fat eels,* at Christmas; nor are such instances by any means rare

Although Naples contains a population of 400,000, I have often wondered, on the Saturday, how the mountains of provisions and good things exposed in the market-places, and in the shops all over the city, could possibly be consumed; but the feasting of Easter Sunday alone pretty generally disposes of all that, and the festivity is kept up, *con brio*, the Monday and Tuesday following. On Easter Monday the city of Naples is crowded, bustling, and noisy in the extreme. The country-people in the neighbourhood,—men, women, and children,—flock into town, and indulge in their favourite propensity of driving about like mad in hack coaches, calessi, carriboli, or any kind of vehicle that will run upon wheels. They refresh themselves (and sometimes powerfully) at the *taverne*, or public houses, in the suburbs; but I should not say that drunkenness is frequent among them even on Easter Monday.

* These eels are always eaten on Christmas Eve, as we eat plum-pudding and roast beef on Christmas-day.

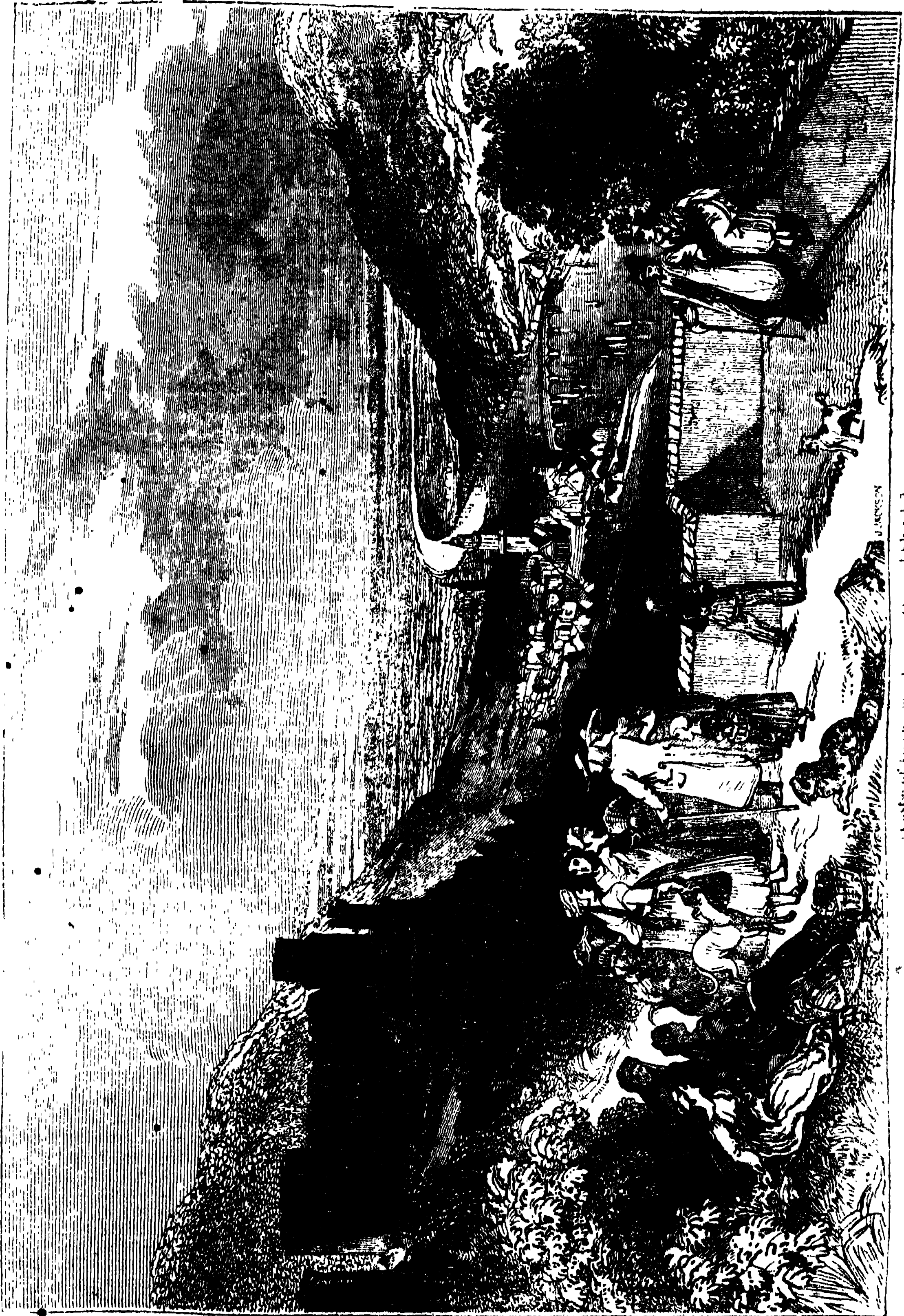
[To be continued.]

THE RUSSIAN SERF.

The bonded peasant is bound to pay undeviating obedience to his lord, to render due service to him, (which service the law has fixed at three days in the week for each married couple,) and to pay the tribute which his lord imposes upon him. The public authorities are bound to lend their aid to the lord at all times. The bondsman is not, however, compellable to obey any orders contrary to law which his master may require him to execute. He cannot marry without the consent of his master, nor can he be forced to marry against his own inclination. If there be any want of marriageable females on an estate, or the whole peasantry are allied by blood, and a neighbouring lord be possessed of such females, in such case the purchase of females may be effected; and in cases where neither the lord nor his peasants have sufficient pecuniary means wherewith to make this purchase, the buyer may agree with the seller to place an unmarriageable female at his disposal for every female he may deliver to him. Both the lord and his peasantry are responsible to the government for all public imposts, and the peasantry are personally liable for the poll-tax, for all burdens imposed on the land, and for the furnishing of recruits. The lord is bound to provide for the maintenance of his peasants, and cannot exact greater service from them than three days' labour per week. Grown-up children, so long as they are single, are not legally liable to do service; but this regulation is not in general much regarded. In case of need, the lord may compel his peasants to dwell under his own roof, or on his own farm, and employ the whole family in working for his support. The peasant cannot enter a complaint against his lord; nay, all his acts become null and void if the lord appear or plead in court; but he may denounce his lord for high treason and false returns of the numbers of his serfs. Though there may be no express law giving the lord a right of disposing of his peasants' property, the denial of a hearing before a public tribunal and the ancient laws respecting slavery are bars to any remedy which the peasant may seek. The head of every province is bound to prevent or punish the commission of any acts of tyranny, and may place the affairs of the lord in trust. It is not lawful for a peasant to change his place of residence; runaways must be delivered up to their masters; the lord has power to punish the peasant, but neither with starvation, maiming, nor death; he can make a recruit of him, send him to the house of correction, and compel him to settle on his estate wherever he thinks proper, if he be not fit for service. Compensation is due to the lord for every peasant slain by design or accident. The lord may emancipate his peasant and also sell him with or without any land; but he cannot separate him from his family, nor dispose of him publicly to the highest bidder. Custom, however, has gradually modified many of these oppressive enactments; and the harshest treatment to which the serf is exposed takes place on the estates of small proprietors.—*Treatise on the general Laws of the Russian State. St. Petersburg*, 1833. —*Translated in Journal of Education*, No. XVIII.

Docility of Oxen.—My man in Long Island used, in summer time, to go out with his yoke and his bows just at break of day; that is to say, as soon as he could see the oxen at fifty or sixty yards from him; for there it is a great thing to get the main of the work done before ten o'clock, and after five, in order to avoid the burning heat of the day. As soon as the man got a sight of the oxen, for the space was large, he used to call out '*Haw boys!*' At the second call, somewhat more loud than the former, the oxen used to rise up and look at him, and then look at one another. When he approached them near enough for his words to be distinctly heard, he used to call out, '*Come under!*' upon which the oxen began to walk off slowly towards him. The next words were, '*Come under, I* TELL *ye!*' pronounced in a very commanding and even angry tone, upon which the oxen set off to him at full trot, bringing their heads up close to his body; and, putting the yokes round their necks, each fastened at the top with a little piece of wood, away he walked, and they after him, into the field, where a single plough-chain hooked on to a ring in the yoke sent the plough along in a minute.—*Cobbett's Treatise on Indian Corn.*

HEIDELBERG.



[Castle of Heidelberg, from an Original Sketch.]

The valley of the Neckar is one of the most fertile and cultivated portions of Germany. The Neckar rises in the Black Forest, and after a course of 150 miles through Baden and Wurtemburg, joins the Rhine at Mannheim. Its beauties increase as it approaches its junction with the Rhine, and nowhere can they be seen to greater advantage than at Heidelberg. This town is in the Grand Duchy of Baden, and is situated at the foot of the Kaiserstuhl, on the left bank of the Neckar, about sixteen or seventeen miles from Mannheim. It possesses but little trade, and indeed its population has been slowly declining during the last fifty years. In 1784 it contained 10,312 inhabitants, but, according to a recent census, their numbers have diminished to 9532. The bridge across the Neckar is a solid but elegant structure of eight arches. Heidelberg contains ten religious edifices. That of St. Peter is the most ancient, and is said to have been the first Christian

church erected in that part of the country. The church dedicated to the Holy Ghost contains some interesting monuments, among which are those of John Casimir of Poland, and Blanche of England, wife of one of the Electors, and daughter of our Henry IV. The University of Heidelberg was founded in 1386, and its library was at one period remarkable for the rich collection of ancient MSS. which it contained. The present academic establishment consists of about twenty-six professors, and from five to six hundred students.

The Castle of Heidelberg is generally the first object of attraction to the traveller. It is in itself highly interesting, and it offers an excellent site for obtaining a view of the whole country. Beneath the spectator flow the undulating waters of the Neckar, and before him stretches out an immense tract of country of great beauty and richness. The mountains beyond the Rhine are seen in the distance. The castle was once the residence of the Counts Palatine of the Rhine, whose sway extended over both the Upper and Lower Rhine. This territory now belongs to Prussia, Bavaria, Baden, and other German powers.

In the seventeenth century the interests of the Palatinate were intimately connected with the warmest and most zealous feelings of the times. Scarcely ever were the religious ideas and passions of men more strongly awakened than at the period when the Count Palatine Frederick V. and Elizabeth his consort, daughter of James I. of England, held their sovereign court at Heidelberg. On this account, as well as from the fact that the history of these personages presents many circumstances of singular interest, it may not be uninteresting or unprofitable to trace some of the leading features of their remarkable career. In the 'Life of the Queen of Bohemia,' by Miss Benger, the reader may study more fully the events which we can only briefly sketch.

Elizabeth Stuart, the eldest daughter of James VI. of Scotland (afterwards James I. of England) and Anne of Denmark, was born in the palace of Falkland, August 19, 1596. She was grand-daughter of the unfortunate Mary, Queen of Scots. Frederick V. was born also in 1596. Both were brought up by persons zealously attached to the reformed religion. Frederick succeeded his father in the Palatinate in 1610. In 1613 overtures were made at the English court for the marriage of the Count Palatine to the Princess Elizabeth; and on the 16th of October he reached England with a princely train as her acknowledged suitor. They were both at this period seventeen years of age. The queen was opposed to the match, and thought that her daughter's hand should only be bestowed on the possessor of a crown. Elizabeth herself was sufficiently ambitious, but the taunts which her mother used to stir up her opposition by asking her how she would like to be termed *Goody* Palsgrave were thrown away upon Elizabeth, whose principles of attachment to the Protestant religion were so deeply rooted, that these stigmas only drew from her an expression of her intention of still more firmly adhering to them. "I would," said she, "rather espouse a Protestant count than a Catholic emperor." Frederick was received by the English people with marked demonstrations of respect and attachment, and the projected marriage was almost universally popular. Their nuptials at length took place, and they left England for the Palatinate attended by several of the most distinguished men of England, and were finally received at Heidelberg by many who were most distinguished by rank or talent in Protestant Germany. The English party appear to have been delighted with the banks of the Neckar, and, according to Stowe, they pronounced the country "a terrestrial paradise." At that period the Palatinate was one of the happiest portions of Germany.

The following description by Miss Benger occurs in her details of the reception of the newly-married couple:—"The site of the castle being elevated 300 feet above the town, its venerable walls had long been visible. It was of such extent that it appeared to comprise within its limits a second town. Never had Elizabeth beheld a mansion so imposing; never had her British friends approached any place so well calculated to recal the image of old German majesty." The entrance to her new abode was by a magnificent triumphal arch, which Frederick himself had designed. It presented a genealogical view of the Palatine Princes, and an allegorical representation of the union of the Thames and the Rhine.

The birth of a son, which took place in the first year of their marriage, was an event which not only Protestant Germany, but England and the Presbyterians of Scotland, hailed with pleasure. The Palatinate had received the reformed religion at an early period, and the University of Heidelberg had promulgated a catechism which the Protestants of the continent regarded as the standard of their faith. Frederick himself, by position, feelings, and circumstances, was looked upon as the chief of the 'Evangelic Union.' On this account he and Elizabeth, and his family, were regarded in every part of Europe to which the new religion had found its way, as its foremost supporters; and when the necessity arose, Frederick naturally was called upon to be its defender. As yet their life at Heidelberg passed pleasantly away. Their tastes were similar, and their ardent attachment bound them still closer to each other. It was at this period that Frederick caused a garden to be formed at the castle, the traces of which still attest his devotion to his wife. The rugged cliffs were clothed with the most beautiful plants, and even full-grown trees were moved, as in more recent times, to a spot for which nature had done little, but which art converted into a most delightful retreat.

Amid these scenes Elizabeth passed the first five years after her marriage, the tameness of a German court being varied by hunting and other pastimes. But the times were full of transitions occasioned by religious enthusiasm, and the zeal and activity which it communicated to men's passions. Miss Benger states that, "In Holland, at this period, almost every class read and descanted on subjects of theology." The interference of the Jesuits in Bohemia had excited the religious feelings beyond even the degree of fervour which was characteristic of the times. The States of the Realm, instead of voting supplies, made a spirited remonstrance to Ferdinand, on whose head they had not long before placed the Bohemian Crown. After a course of intestine disputes, Bohemia was declared dissolved from her allegiance to Ferdinand, and Frederick was invited from Heidelberg to fill the vacant throne. This was the most critical period of Frederick's life. The new position in which he found himself placed both gratified and alarmed him. His friends surrounded his prospects with the most brilliant hopes; but his mother, the Dowager Electress, one of the most sensible women of her time, presented them under more sober aspects. "Trust not too much," she said, "to the Protestant union. In an association composed of so many different interests, the movements must be slow, and the union will easily be broken by the Emperor's promises or threats." To these cogent arguments, dictated by sound political views, and by one who dreaded lest the Palatinate should pass from her family, was opposed the influence of Elizabeth, who had almost unbounded dominion over her husband's mind. With her high principles of honour and deep attachment to the Protestant religion, she stimulated Frederick in the career which not only ambition but honour pointed out as the

only course befitting a prince. At ast he decided upon accepting the Crown, not without some observation on the difficulties with which he was surrounded.

Frederick and his wife arrived in their Bohemian dominions on the 21st of October, 1619. Frederick was crowned on the 3rd of November; and Elizabeth, with equal magnificence, on the 6th of November. But, as the Dowager Electress had foretold, the Protestant union proved weak and ineffective. The united princes addressed to Frederick a letter exhorting him to relinquish the crown, and called upon him not to connect their common cause with "rebellion." This language, Miss Benger states, they had learned from James I., Frederick's father-in-law. Elizabeth's eyes were now opened to the perils of her position; though she was doubtless reanimated by the recognition of her eldest son as his father's successor, which was made by the three estates of Bohemia. But the friends of the deposed king were on the alert; and the defection of those allies on whom he was taught to calculate afforded but little prospect to Frederick of the decision of armies being in his favour. The Battle of Prague, fought near the city, decided the fate of Frederick. So rapidly did the disasters of the day fall upon him, that he had only time to remove the queen in a carriage to the old part of the town, and, instead of obtaining a suspension of hostilities, he could only procure an eight hours' truce. During this short period he determined upon abdicating, as a circumstance dictated by necessity. In the meantime Elizabeth had quitted Prague for ever. On a proposal being made to defend the citadel for a few days, in order that she might retire more leisurely, she exclaimed, "Never shall this devoted city be exposed to more outrageous treatment for my sake. Rather let me perish on the spot than be remembered as a curse!" Elizabeth suffered considerable hardships in their flight. In Breslau a fall of snow rendered the roads impassable for carriages, and she was compelled to place herself on horseback behind a British volunteer. From Breslau she wrote to her father, stating that they had arrived at that place, "where God only knows how long we may be permitted to remain;" and, alluding to the King, she remarks, "if he must perish, why I will perish also." Frederick wrote a touching letter to his brother-in-law, George William of Brandenburg, imploring permission for Elizabeth to reside at the Castle of Custin during her approaching confinement. He at first meanly hesitated, but at length assigned them this place, which proved a wretched abode, accompanied with a proviso that he should be accountable for none of the expenses of themselves or attendants. On the 22nd of December they arrived at the castle; and on the 25th Elizabeth was delivered of a son, to whom the name of Maurice was given. On the 27th of December, in the preceding year, she had given birth to Prince Rupert in the palace at Prague. These two brothers became celebrated afterwards in the civil wars of Charles I. In three weeks the royal fugitives left the Castle of Custin on their way to the Hague.

They were received in Holland with feelings of warm attachment by the people, and the States allotted them an income for their support. Republican simplicity was not very congenial to Frederick, who had been accustomed to the exercise of power as an absolute sovereign. But the native good sense and simplicity of Elizabeth's character appear to have rendered the great change which had taken place in their fortunes an unimportant matter when compared with the welfare of her family. In his adversity, Frederick enjoyed the domestic happiness for which he was peculiarly formed, though embittered by learning that his friends in Prague were now oppressed by the restored Ferdinand.

In 1622 the party of Frederick revived, and he himself joined the army, but under many circumstances of a galling kind. He disbanded his army in conformity with the advice of his father-in-law, and also made one concession after another in pursuance of his councils: but fresh obstacles were incessantly thrown in the way of final and satisfactory arrangements. A letter written to Elizabeth at this period expresses the bitterness which he felt in being thus tossed about by fortune:—"Would to Heaven," he says, "there were but one little corner of this earth where we might dwell together in peace and content!" The Palatinate was gradually subjected to the Emperor's authority. Even Frankenthall, Elizabeth's private dower, was not exempted from the common fate.

For several years after the unsuccessful termination of their affairs both by arms and negociations, Frederick and Elizabeth lived in retirement at Rheten, near Utrecht. The care of their children, the cultivation of their garden, and other simple pleasures, books, and an extensive correspondence, were the sources of interest and happiness to them. The accession of Gustavus of Sweden to the great contest which was going on once more called forth Frederick from his quiet retreat, and he again proceeded to Germany. On Gustavus all the hopes of the Palatine family now depended. The campaign was carried on in the usual brilliant style of the Swedish conqueror; and the termination of Frederick's misfortunes, so far as the loss of his hereditary possessions was concerned, seemed at hand. He suffered, at this juncture, from fever, occasioned by intense anxiety. The battle of Lutzen took place. Gustavus, the champion of his rights, fell on its victorious field, and his prospects suddenly became darker than before. The stroke was too much for him; and, on the 17th November, 1632, he breathed his last, eleven days after the battle. Spannheim says:—"His last thoughts, even his last prayers, were for his Elizabeth."

"The unfortunate Queen of Bohemia," as she has been naturally called, continued to live in obscurity, deriving the means of her support from the States of Holland. After the Restoration of her nephew, Charles II., she came to England, and died at Leicester House in 1662.

Of the Reducing Powers of the Stomach.—The different operations of cookery, as roasting, boiling, baking, &c., have all a reducing effect, and may, therefore, be considered as preparatory to the solvent action of the stomach. Of these operations man's nature has taught him to avail himself, and they constitute the chief means by which he is enabled to be omnivorous; for, without such preparation a very large portion of the matters which he now adapts as food would be completely indigestible. By different culinary processes the most refractory substances can often be rendered nutricious: thus, by alternate baking and boiling, the woody fibre itself may be converted into a sort of amylaceous pulp, not only possessing most of the properties of the amylaceous principle, but capable of being formed into bread. The culinary art engages no small share of attention among mankind: but, unfortunately, cooks are seldom chemists, nor indeed do they understand the most simple of the chemical principles of their art; hence their labour is most frequently employed, not in rendering wholesome articles of food more digestible—which is the true object of cookery—but in making unwholesome things palatable, foolishly imagining that what is agreeable to the palate must be also healthful to the stomach. A greater fallacy can scarcely be conceived; for, though by a beautiful arrangement of Providence, what is wholesome is seldom disagreeable, the converse is by no means applicable to man, since those things which are pleasant to the taste are not unfrequently very injurious. Animals, indeed, for the most part avoid instinctively all unwholesome food, probably because everything that would be prejudicial is actually distasteful to them; but as regards man, the choice of articles of nourishment has been left entirely to his reason.—*Prout's Bridgewater Treatise.*

MINERAL KINGDOM.—Section XXXVII.

Gold—(*continued.*)

Gold has been found in many of the tin stream works of Cornwall, but none has yet been met with in the mines. Mr. Carne, says, however, that many circumstances render it probable that a vein containing gold exists somewhere in the vicinity of the parish of Ladock, N.W. of Grampound, although it has never been discovered. Some years ago, a considerable quantity of stream-gold was found in the county of Wicklow, in Ireland. The discovery was made accidentally in the Ballin valley stream at Croghan Kinshela, about the autumn of 1796. "It was at first kept secret, but being divulged, almost the whole population of the neighbourhood," says Mr. Weaver, "flocked in to gather so rich a harvest, actually neglecting, at the time, the produce of their own fields. Several hundreds of people might be seen daily assembled digging and searching for gold on the banks and bed of the stream. Considerable quantities were thus collected, and the populace remained in undisturbed possession of the place for nearly six weeks, when Government determined to commence active operations. An Act of Parliament was then passed for the management of the undertaking under three directors. Regular stream-works were soon established, and up to the unhappy period of the rebellion in May, 1798, when the works were destroyed, Government had been fully reimbursed its advances; the produce of the undertaking having defrayed its own expenses and left a surplus." In the year 1801 the operations were resumed, and trenches were cut in various directions in the solid rock, to endeavour to discover the veins from which it was conceived the ore might have been derived, but all without success. The gold found was in lumps and grains in an alluvial deposit, resting upon the primary clay-slate, of which that part of the country is composed, and was mixed with fragments of magnetic iron-ore, and other ores of iron, tin, manganese, and the rare metal wolfram. The total quantity of gold collected by Government was about 944 ounces, which produced 3675*l.* Some lumps of considerable size were found: one weighed twenty-two ounces, another eighteen, a third nine, and a fourth seven ounces.

The slate mountains which run across the southern part of Scotland, have afforded stream gold in several places, particularly the rivulets in and near Crawford Moor, in the southern part of the county of Lanark, and not far distant from the lead-mines of Wanlockhead and Lead Hills. A curious work entitled 'The Discoverie and Historie of the Gold Mynes in Scotland,' by Stephen Atkinson, written in the year 1619, was reprinted at Edinburgh ten years ago by the Bannatyne Club. It appears from that, that the gold mines of Crawford Moor were first discovered in the time of James IV., who reigned from 1488 to 1518, and that in the year 1526 a company of German miners obtained a grant from James V. for forty-three years, of the gold and silver mines of Scotland. Similar grants were given by the Crown at after periods, among others one by James VI. to this same Stephen Atkinson, who was a refiner of gold and silver in London. We have nowhere any account of the quantity of gold obtained from any of the washings in Scotland, but of this we are very sure, that it never could have been considerable, and most probably was never equal to the value of the labour and outlay expended in searching for it.

Gold of Africa.—Gold-dust has long formed an article of barter in the trade with the natives of the west coast of this continent, from the river Senegal to Cape Formosa in the Gulf of Guinea, a part of which is called the Gold Coast. It is not only found in the rivers near the coast, but a considerable quantity is brought from the interior. Our old coin, which has bodily disappeared, but still lives in the fee of the lawyer and physician, in the lists of charitable subscriptions, and on all occasions when five per cent. can be slily added to the value of the sovereign, under the guise of its being more handsome and genteel than the vulgar pound, was called a guinea, because when first introduced in the reign of Charles II. it was made from gold brought from this part of the African coast. There are many allusions in the early writers to gold mines in Abyssinia, and it is said to be now obtained in Sofala, a part of the south-east coast opposite to the island of Madagascar. Some authors have conjectured that the land of Ophir, from which Solomon obtained his gold, was situated somewhere on this coast.

Gold of Asia.—Asia has long afforded a great supply of gold from various parts of its vast continent, and the islands adjoining to its coasts. A very large amount is annually exported from Japan. Dr. Jack, in his 'Account of the Geology of the Island of Sumatra,' says, that the province of Mendheling has long been celebrated for its gold, which is of the finest quality, that it is said to possess upwards of 700 mines, and that its annual export of gold probably does not fall short of 1000 tales. But as 1000 tales are only a little more than 100 troy pounds, according to 'Kelly's Cambist,' the working of the 700 mines must be a very unprofitable occupation. Gold forms the principal article of export of the island of Borneo, and according to Milburn's 'Oriental Commerce,' the quantity exported annually is 200 peculs, which is equivalent to somewhat more than 300,000 ounces, or about 1,200,000*l.* value. But it would be tedious to enumerate places, and there is nothing different in the geological history of the gold found in Asia from what is known of it in other countries. Mr. Jacob vastly underrates the supply of gold from Asia, for he says that it does not exceed 380,000 ounces annually, including China and Japan, whereas the island of Borneo alone appears to produce little short of that quantity.

United States.—Gold has been recently found to a large amount in the mountainous part of the southern states of North America, especially in North Carolina. The gold country, according to Professor Olmsted, lies on the southern side of the state, and is spread over a space of not less than 1000 square miles. The prevailing rock is clay-slate, traversed by many veins of quartz, and it is in these veins that the gold appears to exist; but almost all that is found is in the form of grain and lumps of various sizes in the alluvium which covers the rocks. It appears from the 'American Almanac for 1834,' that the quantity of gold collected in 1832 was equal to about 141,400*l.* The proportion produced by the different states where it is found was as follows:—

	Dollars.
North Carolina	458,000
Georgia	140,000
South Carolina . . .	45,000
Virginia	34,600
Tennessee	1,000
	678,600

*** The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

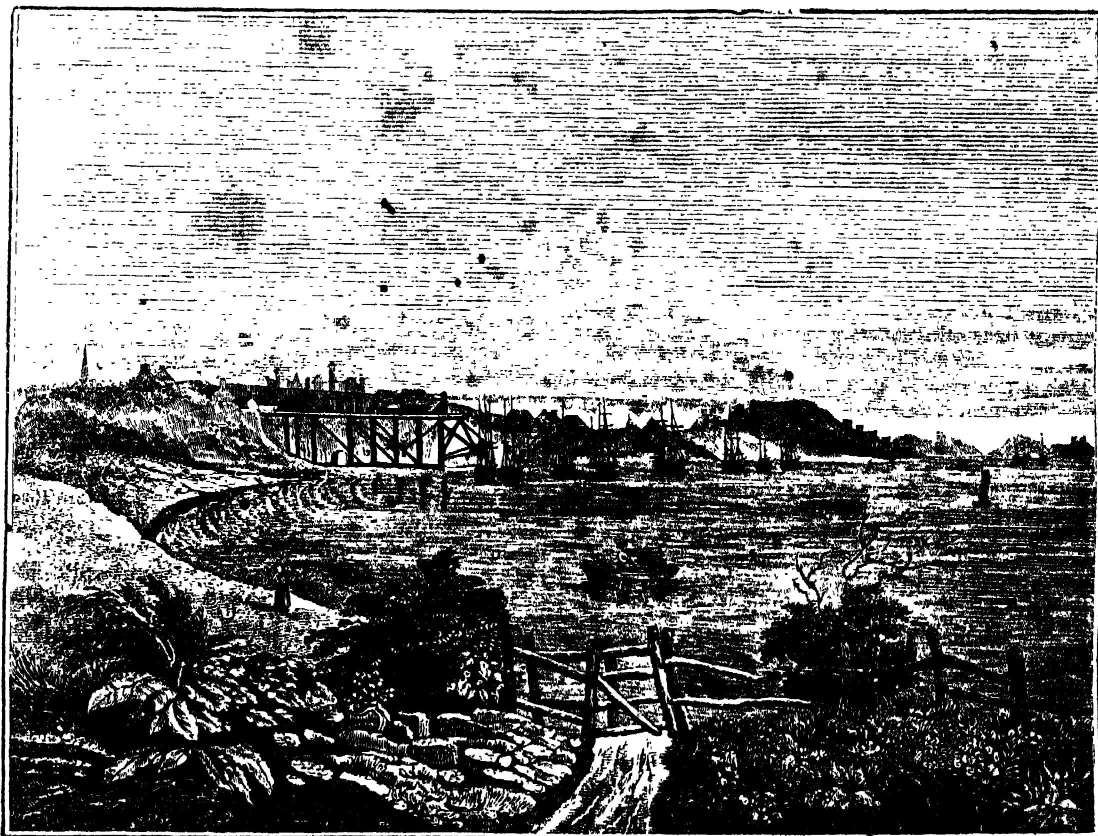
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THE COLLIERIES.—No. II.



[View on the Tyne, showing the mode of shipping the Coal described at page 162.]

We explained in the preceding Supplement the process of obtaining coal, and the manner in which it is prepared for the market. When this is accomplished, it has next to be transported to the ships employed in the coal-trade. For this purpose a road is constructed (generally a rail-road) leading from the mouth of the pit directly to the nearest harbour or river.

Nature has intersected the northern coal-field by three considerable rivers, in consequence of which the whole district possesses an easy, cheap, and expeditious mode by which its produce may find its way into the general market. These three rivers are the Tyne, the Wear, and the Tees, each of which is admirably adapted, both by its volume of water, its tides, and harbour-room, for the purposes in question.

The Tyne is the most important of the northern coal-rivers, and, as it possesses all the excellencies of the others, we shall confine our description to it. It originates from two small streams called the North and South Tyne, which unite a little above the ancient town of Hexham, at about thirty miles distance from the sea, where it becomes navigable for small craft. From Hexham it flows through a fine hilly country to Newcastle, where it is sufficiently wide and deep for vessels of large burden, and where its office as a coal-river may be said properly to commence. Its course from Newcastle to the sea, at Tynemouth, presents scenes full of activity and enterprize. Nowhere is capital seen in fuller or more beneficial employment. Heedless alike of the obstructions of hills and valleys, it has created hundreds of railways, which, commencing at the mouths of the different pits, terminate at some convenient place on the banks of the river. On these thousands of waggons convey with rapidity the produce of the mines to the vessels lying at anchor in the river, which, as they complete their freight, are towed out and depart with every favourable wind for their several destinations.

The large collieries in the vicinity of the rivers have each a railway running in the most direct line to their banks. Upon these railways the waggons move in trains of from ten to thirty or more in number, according to the extent of the works or the existing demand for coal. The nature of the power which puts them in motion depends in some measure on the distance they have to travel, and the inclination or other peculiarities of the surface. On those which are perfectly level, a locomotive steam-engine generally heads the train, and drags it to its destination with startling rapidity. On other railroads, which have a regular descent the whole way, the waggons are impelled by their own gravity, and, by the aid of a long rope and a series of pulleys, drag up the empty train, which, in its turn, when again descending with a load, draws the other to the pit in like manner. When the railroad is carried up an ascending piece of

ground, the train is drawn up the ascent by a winding-engine placed at the summit. In many small establishments, and in some which are situated very near one of the rivers or the coast, horses are employed to draw the train of coal-waggons; and, in others, a combination of all these methods is practised. Those collieries which are situated several miles from either the rivers or coast have frequently to pay sums amounting to 400*l.* or 500*l.* a-year for the right of carrying their communications through private property which intervenes between the pits and the place of loading.

At the end of the railway, and overhanging the river, a large platform of wood is erected, which is called a staith. Upon this the waggons laden with coal are brought to a stand previous to the discharge of their contents into the holds of the ships which lie at anchor underneath. Each waggon contains about 2½ tons (53 cwts.) of coal, and when the number of waggons has been entered by a clerk appointed for that purpose, they are placed, one at a time, on a square open frame, which, on the withdrawal of a bolt, is immediately moved from the staith by machinery until it is suspended over the main-hatchway of the vessel. A man who descends with it then unfastens a latch at the bottom of the waggon, which, being made to turn upon hinges like a door, immediately opens, and the whole of the coal in the waggon is cleanly poured into the hold. To facilitate this operation the sides of the waggons converge towards the bottom, and are lined with smooth iron-plates. Attached to the suspending machinery are two counterpoising weights, which, being less heavy than the waggon when laden with coal, do not impede but add steadiness to its descent; but, the moment the coal is discharged, their gravity draws up the waggon to the staith. This mode of loading the vessels is both complete and ingenious. In an excursion on the Tyne, between Newcastle and Shields, the perpetual ascent and descent of the waggons in the manner above described forms a very novel and curious spectacle to a stranger.

In situations where, owing to the height of the cliffs, the above mode of emptying the waggons would be inconvenient or impracticable, a large spout is used, and the vessel is brought under the aperture at the lower end; so that the coal emptied at the top passes along the spout, and is discharged into the ship's hold. The height of the staith at Seaham is perhaps forty feet above the deck of the vessel, and to diminish the force with which the coal would descend the spout from such a height, there is a trap-door at the lower end, by which the force of its descent is diminished, and it reaches the hold without injury to the vessels. The accompanying cuts (pages 161 and 168) represent both the mode of loading by staith and by the spout.

One of these two methods is invariably pursued wherever there is a sufficient depth of water to allow the vessel to come alongside the staith; but as this is not always the case, whenever an impediment exists, some other mode becomes necessary. There are many coal-works in which, owing to local obstacles and the intersection of private property, a right of way cannot always be obtained. The greatest obstacle of all, and one which is coeval with the coal trade itself, is the bridge which crosses the Tyne at Newcastle, which effectually bars the passage of coal-vessels above the town. Those owners, therefore, whose pits lie "above bridge", are compelled, in addition to the railway and staith, to employ a number of light barges called "keels," for the purpose of conveying their coal to the ships. This mode of conveyance is the most ancient, and was universal before the invention of the staith and its mechanical apparatus.

A keel is built sharp at both ends, and is capable of containing about 16½ London chaldrons of coal (about 21 tons), has a sort of quarter-deck for the convenience of the keelmen, and a footway or gangway along the sides. The collier, waiting to receive the cargo of the keel, lies at anchor in a convenient part of the river, and generally a keel is lashed on each side of her. The coal is shovelled through her ports, or into a large tub, which, when filled, is drawn up, turned over, and the coal emptied into the hold. But this method occasions the breakage of the coal to such an extent as to deteriorate its value in the market.

By the vessel receiving her cargo from the staith, without the intervention of the keel, a saving of about 9*d.* per London chaldron is effected in keel dues. The employment of keelmen is therefore dispensed with wherever it is possible. Still their wages are tolerably constant, and are higher than those received by pitmen, and considerably higher than the wages of an agricultural labourer. They average from 18*s.* to 21*s.* per week, and occasionally they obtain, under certain circumstances, from 30*s.* to 40*s.* They are paid by the tide, voyage, or trip.

We feel much pleasure in recording a circumstance in the history of the keelmen, which does great credit to their foresight, and is worthy of imitation by all classes of our industrious population. Warned many years ago by the sentiment expressed in the northern proverb—

"Did youth but know what age would crave,
Many a penny it would save,"

they raised a sum by subscription among themselves, with which they founded an extensive establishment in Newcastle, known by the name of the "Keelman's Hospital." In this quiet retreat fifty-two aged men and women find a comfortable asylum during their latter years. We believe that this is the only hospital in the kingdom built and supported by the working classes for their own members. The keelmen meet once a-year to celebrate the establishment of this institution, perambulating the town with bands of music, playing the lively Northern air—"Weel may the keel row."

A stranger who visits the banks of the Tyne will not fail to be struck by the immense heaps of sand which are to be seen, some of them being from 100 to 200 feet in height. The colliers, after discharging their cargoes, take in a quantity of sand as ballast, and on their return to the river, it is discharged on its banks. It is afterwards removed to the top of these "ballast hills," which is often a tedious and expensive process. Sometimes a steam-engine and an "endless train" of ascending and descending buckets is necessary.

Newcastle, the metropolis of this district, has doubled its population within the last thirty years. It has been enriched by the coal-trade, which attracts vessels from all parts of the world to discharge their merchandize upon its quays. By the exchanges which follow these transactions, a multitude of trades are called into activity, which in their turn give employment and wealth to industrious thousands, who, spreading over the neighbourhood, form new and flourishing communities. In this way North and South Shields, at the mouth of the Tyne, and many intermediate villages on its banks, have sprung up within the memory of persons yet living. Of the coal annually consumed in London, one-half, amounting to more than 1,000,000 tons, is shipped at Newcastle. The foreign export of coal from Newcastle amounted, in 1832, to 233,448 tons, being above a third of the whole quantity sent abroad. Vessels do not enter or clear at North and South Shields, but at Newcastle, of which those places are the out-stations. The number of ships registered at Newcastle is above 1,100, and their tonnage amounts to 221,276 tons. A collier makes on an average nine or ten, and sometimes more, voyages to London in a

year; and the number of arrivals in the Tyne annually is not less than 13,000 or 14,000,—10,000 of which are on account of the coal-trade.

Sunderland is the great shipping port of the Wear. The number of its registered vessels has more than doubled within the last fifty years, being 625 in the year 1829, and the tonnage 107,880. The average number of vessels quitting the port is 176 per week, or 9152 in a year. The amount of coal sent abroad from Sunderland is about 176,000 tons annually; and it supplied the London market in 1833 with 667,787 tons, besides enjoying, along with Newcastle and other ports of the North, a share in the general coast-trade in coal.

Stockton, on the Tees, is a thriving port; and its trade in coal, though not so large as its more powerful neighbours, Newcastle and Sunderland, is, we understand, increasing.

Blythe, or Blythe Nook, is a small port on the river Blythe, which may be considered one of the smaller rivers on the Northern coal-field. Above 100 vessels belong to this port. Seaton Sluice is another small port in this quarter; and, within the last few years, a harbour has been formed at Seaham, near Sunderland, by the Marquis of Londonderry. A rail-road leads to it from the South Hetton colliery, a distance of about four miles, passing, in its course, across valleys, and through passages cut in the solid rock. There did not exist, at Seaham, the slightest natural appearance of a harbour; but it is now a most convenient shipping-station for colliers to receive their cargoes in safety. Two piers have been constructed, and a village has sprung up on the site where these improvements have been so successfully undertaken.

The quantities of coal shipped from the different ports of England, Scotland, and Wales, in 1829, were as follows: Quantities sent coastwise, 5,014,132 tons; to Ireland, 840,246; to the British colonies, 128,893; to foreign countries, 240,854; making the total quantity shipped 6,224,125 tons.

Soon after the Revolution, in 1688, a duty was imposed on coal brought coastwise into the port of London in addition to the municipal charges with which it was burdened. During the last war, it was as high as 9*s.* 4*d.* per chaldron; but was reduced to 6*s.* in 1824. There was a drawback allowed on coal sent coastwise to Cornwall for the use of the mines. This drawback amounted, in 1829, to 16,148*l.* There was no duty on coal sent coastwise from one part of Scotland to another; and the duty on that exported to Ireland was only 1*s.* 7½*d.* per ton. After having, in the interval, undergone some modifications, the whole of these duties were totally abolished in 1831.

The total sum received for the duty on coals amounted, in 1829, to 1,021,862*l.*; of which London contributed 464,599*l.*; Norfolk, 83,564*l.*; Kent, 52,549*l.*; Devonshire, 42,784*l.*; Hampshire, 37,813*l.*; Sussex, 36,295*l.*; Essex, 30,881*l.*; making, with other maritime counties, 847,266*l.*

In the same year, the duty on coal exported to Ireland amounted to 74,050*l.* The chief ports of shipment were Whitehaven, Liverpool, Newport, Swansea, Irvine, Ayr, and Glasgow.

Up to August, 1831, the duty on coal exported to British possessions was 1*s.* 6*d.* per chaldron, and to foreign countries 17*s.* per chaldron, Newcastle measure. (53 cwts.) Since that year, the duty on coal sent to foreign countries has been 3*s.* 4*d.* per ton; and on small coal 2*s.* In 1829, the quantity exported was 369,747 tons; whereas, in 1833, owing to the reduced duty, it had increased to 634,448 tons.

In 1829, there were sent to the British possessions 128,893 tons. In 1833, the isles of Guernsey, Jersey, Alderney, and Man imported 53,866 tons; our North American settlements, 55,313 tons; British West Indies, 46,442; Gibraltar, 9914 tons; and Malta, 7000 tons.

Of the coal exported to foreign countries, Holland takes a greater quantity than any other. In 1833, the exportation from this country to Holland amounted to 142,38 tons. Denmark took 74,445 tons; Germany, 69,896; France, 45,218; the United States, 28,512; Prussia, 24,068; Portugal, 13,532; and Italy, 10,000 tons.

London is, of course, the most important market for coal. In 1833, the supply amounted to above 2,000,000 tons, which was furnished by the following places:—Newcastle, 1,060,839 tons; Sunderland, 667,787; Stockton, 170,690; Blythe and Seaton Sluice, 48,689: from Scotland, 15,138; from Wales, 32,156; from Yorkshire, 16,110; from inland pits, by the Grand Junction Canal and the western part of the Thames, 4395 tons, making a total of 2,015,804 tons.

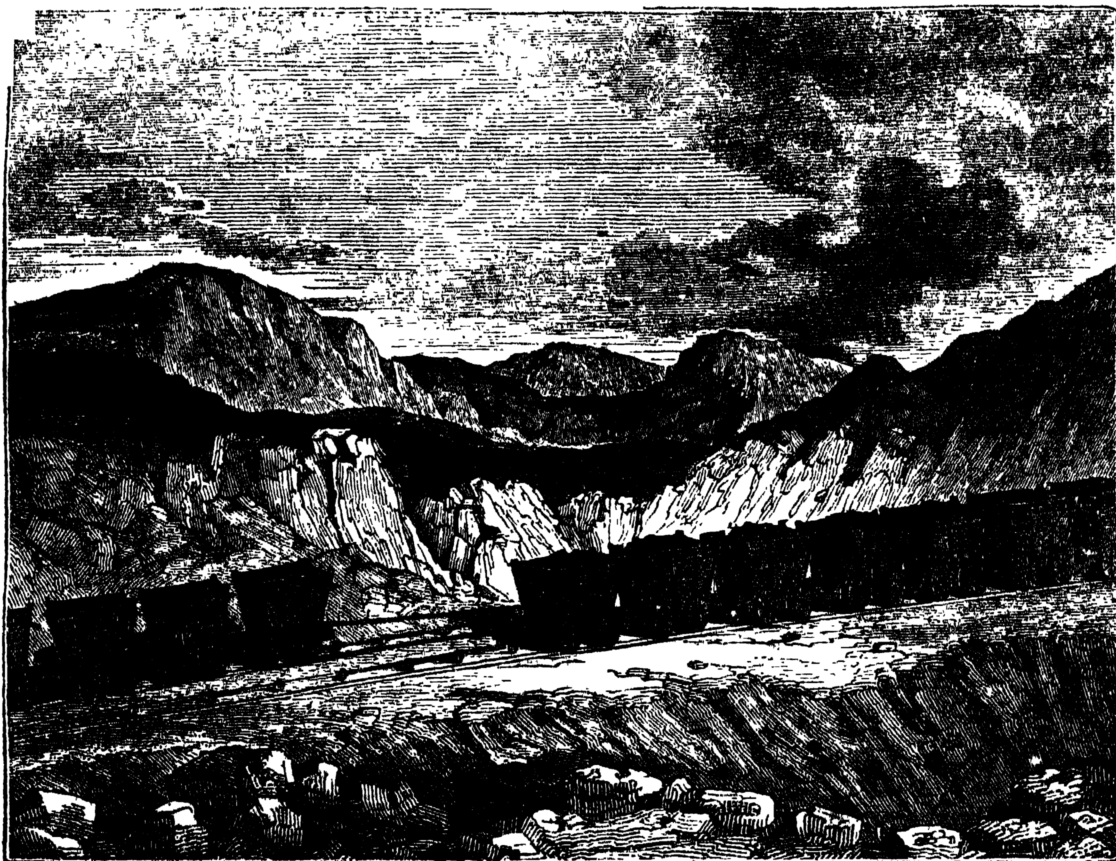
The immense activity which the coal-trade gives to the shipping interest renders this branch of commerce not only important on account of the wealth which it creates, but intimately allies it with our national welfare, by forming a most admirable nursery for seamen. Even sixty years ago, when it was far less extensive than it is at the present moment, Postlethwaite said that, "in a time of urgent necessity, the colliery-navigation alone has been able to supply the government with a body of seamen for the royal navy able to man a considerable fleet at a very short warning, and that without difficulty, when no other branch of trade could do the like." Above 10,000 men and boys are engaged in the Newcastle shipping alone.

Five-and-thirty years since, Colquhoun, who wrote a treatise containing an historical view of the commerce of the port of London, says, in that part of it which relates to the coal-trade, that this branch of our enterprise "exceeds the foreign commerce in the number of ships annually discharged; and requires double the number of craft which is required for the whole import and export trade of the Thames." In 1799, the number of colliers which arrived in the Thames was 3279; in 1818, there were 5239; and in 1833, 7077.

The two ports of Newcastle and Sunderland now possess shipping whose tonnage is above 310,000 tons, being about 50,000 tons more than the whole mercantile navy of the country about the year 1700. But as there was no legal registry of tonnage at that time, the presumption that the shipping of Newcastle and Sunderland now and that of the whole country in the year 1700 were equal is, perhaps, the most accurate.

Owing to the configuration of our coasts, persons who reside a great distance from inland collieries can be supplied from pits 400 or 500 miles off at a cheaper rate than if coal had to be procured by land-carriage only a few short miles from their homes. Even at a distance of 600 or 700 miles from the pit, the sea-borne coal commands the market. Hence the most distant parts of the country partake of the advantages of cheap fuel; and if they be remote from the coast, it is ten to one but capital has been employed to open a cheap communication with an inland coal-district by means of a canal, which always benefits the humble labourer, whilst the capitalist whose money has been expended on such works is frequently compelled to wait for years before he begins to receive a profitable return on his investment; the advantage to the former commencing from the moment that the first boat-load arrives by the new communication, rendering an article, which formerly only the rich could afford to purchase, accessible to the humblest cottager.

There is generally an intermediate agent between the coal-owner and ship-owner or merchant, termed a coal-fitter. The intervention of such a class of men is an economical and beneficial arrangement to all parties,



[Inclined Plane on the Railway from South Hetton to Seaham Harbour, showing the manner in which a Loaded Train of Waggons pulls an empty one up the declivity.]

and renders it unnecessary for a coal-owner to leave his works and attend the shipping-port in search of buyers; at the same time it prevents the ship-owner leaving his ship in order to seek a cargo at the pit. When the trade is unusually good, the coal-owners sometimes hire vessels and send them to market at once. A cargo is generally purchased by the trader, who, after payment of the freight and other charges, disposes of it to the London merchant.

Legislation on the subject of coal commenced about 400 years ago, and as the use of this article gradually became more extensive, it was surrounded by many regulations, some of which were intended to benefit the consumer, and others to render the imposition of a tax beneficial to the state. The enormous supply which the metropolis at present requires is furnished under peculiar local regulations, one of the most important of which is that all coal must be publicly sold at the Coal Exchange. The following extract from an old pamphlet, published nearly 200 years ago, and purporting to be a dialogue between a wholesale and retail dealer, will show the advantages of a public market for the sale of coals. The former, detailing the means which he used to enhance the price of coal, says:—"Though the fleete be an hundred saile, yet we meet them at Yarmouth, or before they come so farre, and suffer not above twenty or thirty to appeare at a time, and then give out the rest are suspected to be lost or taken. We tell the masters that our yards at London are full, that money is dead, and they must deliver or sell forthwith, or else their charges will quickly eat out their gaines; and so we get coales at our owne prices, and sell them as we list." He then goes on to say:—"There are now some forty or fifty saile of colliers come into the poole, and the poore people have great hopes to see coales fall in their prices; whereas, alasse, poore silly fools, our agents at Newcastle have bought them all for us."

The practice at present is, when a vessel with coal arrives in the port of London, to transmit to the authorised factors at the Coal Exchange a statement containing the name of the vessel, the port to which she belongs, and the quantity and name of the coal she contains. The sale of the cargo then takes place under certain known and public regulations. The times of sale are between the hours of twelve and two on Monday, Wednesday, and Friday in each week. The average number of ships at market on each of the above days during the year is about ninety; the average number sold each day about forty-six.

In the port of London the crew are not employed in delivering the cargo when sold. In order, therefore, to avoid any delay in this operation, which would be injurious both to the seller and purchaser, but particularly to the former, whose profits depend to a great extent upon the rapidity of his voyages, a beneficial division of employment is created, which is useful to both parties under the existing regulations concerning the delivery of the ship. Men, called coal-undertakers, attend the Coal Exchange when the vessel whose cargo he has engaged to deliver is to be sold. He obtains the name of the buyers, and then hires a gang of labourers, and apprises the purchasers of the time when the delivery will commence.

The men whose duty it is to deliver the colliers of their cargoes, are called coal-whippers or coal-heavers, and are about 1800 in number. Their existence is entirely owing to the regulation which precludes the crew of the vessel from performing this work. In any other port but London it is done by them. They are therefore a "privileged" class; but, like similar bodies whose interests are based upon regulations which are artificial and incompatible with the general good, they fail to draw from them all the advantages which at first sight they might be thought undoubtedly to confer. As far as the consumer is concerned, the operation of



[Seaham Harbour, showing the Termination of the South Hetton Railway.]

this monopoly is decidedly injurious. The expense of delivering a cargo of coal is above 20*l.*, while a vessel laden with timber, which is a more cumbersome article, is delivered at a cost of about 9*l.*, owing to the competition of labour being unfettered. Each of the 1800 coal-whippers of London earns on an average 66*l.* a-year. This sum, with economy and good management, would surround them with many comforts, and if the general habits of this class were steadier, they would form a respectable body amongst the industrious population of the metropolis. They deserve to be well paid, as their labour is very severe; but it would not be difficult to prove that there are much better means of sustaining the animal powers than ale and porter, or gin, which too often they consume in large quantities. But if these men be not distinguished by their habits of temperance, the unfortunate position in which they are placed with respect to the coal-undertakers (who are usually publicans), absolutely compel them to become his customers. This degrading thraldom is the result of their "privileges," and could not be maintained if competition were free to any one who was capable of earning his bread by such labour. There were but 800 coal whippers when Colquhoun's work was published. But he gave in that work statements proving that the coal-heavers were each defrauded out of 30*l.* annually; and he estimated the profits of the publicans on the liquors which are *forced* upon these men, with the money taken for commission, as being not less than 8577*l.* per annum.

It appears that there existed at one time an act (10 George III., cap. 53) which, as far as possible, relieved the coal-heavers from their dependance on publicans, by enacting that no coal-undertaker should take or demand money from any coal-heaver as a commission for procuring him employment; and that no coal-undertaker should be a victualler, or directly or indirectly concerned in receiving any part of the profits of such trade, or in any other manner in the selling of spirits or drink of any kind, on pain of being deprived of his appointment. This act was in force for three years, when it expired, and has never since been re-enacted.

Perhaps we ought to add, that though the circumstances described by Colquhoun still exist, and the habits of coal-heavers may still be characterized as frequently intemperate, yet that the intensity of these has considerably diminished; and it is gratifying to reflect that, although the wages of coal-heavers are not so high as they once were, they now bring home to their families a larger weekly sum than at the former period.

The bargemen are employed in conducting the barges from the ships' side to the different wharfs. An idea of their number may be formed by comparing the coal-trade at the commencement of the present century and its extent at this time. At the former period the monthly supply of coal for the metropolis was estimated at 300 cargoes per month. Colquhoun observes that, on some occasions, 90 colliers (each requiring on an average thirteen barges) were then discharging their cargoes at once, giving employment to 1170 barges. The total number of barges engaged in the trade he estimated at 2196.

From returns obtained at the Coal Exchange, it appears that there are now 598 cargoes sold per month, which is double the quantity brought to the metropolis when the above estimate was made. The number of coal-barges at present employed is therefore most probably above 4000. They are usually the property of coal-merchants, and must be navigated by members of the Watermen's Company. The charges for lighterage,—*i. e.*, for conveying the coal from the vessel and discharging it at the wharf,—is 2*s.* per London chaldron. Many of the bargemen receive about 30*s.* per week for conducting their barges up and down the Thames. We believe that coal is often taken from the vessels and conveyed as high as Lambeth at the rate of 1*s.* per chaldron. These barges are

carried by the tide, and conducted by a single man. If their cargoes had to be conveyed the same distance by land, the cost of coal would be enormously increased to the consumer

The wholesale coal-merchants have wharfs along the banks of the river. In the first year of the reign of Queen Elizabeth (1558) twenty wharfs were established, and up to the commencement of the present century their number had not been increased. The coal being brought by the barges from the vessel is landed on the wharf, from whence it is sent out to the retail dealers and larger consumers. The cost for cartage and shooting is about 3*s*. 5½*d*. per ton per mile, and assuming the average distance carted to be a mile and a half, it will amount to at least 7*s*. per London chaldron. The charge of unloading the waggons is 1*s*. 6*d*. per chaldron.

Previous to 1831 the coal-trade of the metropolis was under a series of close municipal regulations, many of which are now done away with. They were, however, insufficient to prevent the extensive prevalence of fraud, and an act was passed in 1831, which, by one of its clauses, simplified the previous cumbersome administration of the law, and placed the trade on a footing much more advantageous to the consumer. This beneficial change was accomplished by an enactment under which, within twenty-five miles of London, all coal must be sold by weight and not by measure. Every waggon carrying out coal from the merchant's yard is required to be provided with a weighing-machine, and the waggoner is compelled, under heavy penalties, to weigh any sack which the consumer may conceive to be deficient in amount. A ticket must always be delivered to purchasers of a certain quantity, specifying the name of the coal, and the number and weight of sacks which the waggon contains. Temptation to fraud is now removed as far as possible, and can be easily discovered if suspected.

To that class of persons whose consumption is small, the change in the mode of selling is of the greatest importance. Dr. Hutton who, being brought up a collier, is a good authority on such a point, says, that if a cubic yard of coal when broken be equal to five bolls, it will measure seven and a half when broken small—Mr. Buddle thinks eight. The consumer, therefore, paid for the latter proportion and received only the former. It was therefore clearly the interest of all classes of dealers through whose hands the article passed, to cause as much breakage as possible.

In addition, the evil of selling by measurement at all was greatly aggravated by the nefarious practice of selling by *heaped* measure. By forming the cone of small coal, much less would be measured than if larger pieces were used. Happily for all classes of consumers, the Act respecting "Weights and Measures," which came recently into operation, has abolished heaped measures entirely.

In an active and wholesome state of competition there cannot exist in any trade a class of men whose functions are not obviously connected with its useful and beneficial operations. It appears that in the middle of the sixteenth century the supply of coal was in the hands of too great a number of dealers. This subdivision, however, was not owing to the perfected manner in which men carried on their different trades, but shows rather that these trades had not yet found their natural channels, and that they were so unimportant as to have been unable to maintain a separate existence, just as we see now a village shopkeeper acting as a hatter, a draper, a grocer, a druggist, &c. An Act passed in the reign of Edward VI. attributed the circumstance of a trade being divided in the above manner to the "greedy appetite and covetousness of divers persons;" and then went on to state, that, in consequence of this, "fuel, coal, and wood runneth many times through four or five several hands or more, before it cometh to the hands of them that for their necessity do burn or retail the same;" and as a remedy for the evil,—"It is therefore enacted that no person shall buy any coal, but only such as will burn or consume the same; or such persons as sell the same again by retail to such as burn or consume the same for their own occupying."

Admitting, however, that the trade was, at the above period, engrossed by too great a variety of dealers, we shall see that 100 years afterwards, either in consequence of this very enactment, or from the fluctuating and unsettled condition of trade, it was then monopolized chiefly by two classes of traders. In a pamphlet from which we have already quoted, published at that time (1653), and entitled, 'The two grand Ingrossers of Coles, viz., the Woodmonger and the Chandler,' it is shown that they bought the coal at the pit, and so held in their hands the power of controlling the market. In this instance an intermediate class of men was required between the coal proprietor and the London wholesale merchant, whose interests should be best promoted by carrying supplies into the market as quickly as possible.

In order, therefore, that the very poorest class may enjoy the luxury and comfort of a fire, there are, first of all, men employed in procuring the coal from the bowels of the earth,—others in navigating the ships which bring it to market,—merchants possessing wharfs and the conveniences which enable them to keep a sufficient store; and then come the retail dealers, from whom even so small a quantity as a single pennyworth can be obtained. Lest an article so important should become a monopoly where it is sold in large quantities, it can only be disposed of, in London, in a public market, in which every transaction that occurs is published and widely circulated in newspapers, which also state the prices which the various descriptions of coal are fetching from one market-day to another. The tricks which were practised in this trade some two hundred years ago, and which the old pamphlet we have noticed details, would now be utterly void of success. The "chandler" of that day mentions to a brother dealer the devices which he adopts in order to procure a temporary rise in fuel. "First," says he, "I vent it out by carmen and poor folks, that indeed there was a fleet come of sixty-five or seventy saile almost as far as Harwich; but there rose a violent storm, so that most of the fleete was shipwreckt, and the rest rendered unserviceable to put to sea till next Easter at least. At the report of this, O how the poore shrug in their shoulders, and pawn their pewter dishes and brasses, and any goods, at the brokers, to get some coales in at any rate; and then I vend my worst coales, or mingle them with a few good ones."

Camden, in his history of Durham, the materials for which were collected more than 250 years ago, said that that county was rich in pit coal, "which we use for firing in *many* places." About 100 years afterwards the quantity imported into London was 270,000 chaldrons; in 1688, 300,000 chaldrons; and in 1750, 500,000 chaldrons; and the consumption has gone on gradually increasing until its use has become universal. In 1801 the consumption of coal in the metropolis was 1·05 chaldron per head; in 1828 it had increased to 1·156. Owing to the very nature of mining speculations, it is scarcely possible that there should be any monopoly of the article by the coal-owners. We have stated that when the trade in London is unusually good, the coal-owners occasionally freight ships on their own account, in order to have the benefit of the market; and it appears that they also do this at times when prices are excessively low. Mr. Buddle stated to the Parliamentary Committee,—"Although many col-

lieries in the hands of fortunate individuals and companies have been perhaps making more than might be deemed a reasonable and fair profit, according to their risk, like a prize in a lottery; yet, as a trade, taking the whole capital employed on both rivers, he should say that certainly it has not been so." Being asked, "What have the coal-owners on the Tyne and Wear, in your opinion, generally made on their capital employed?" He replied,—"According to the best of my knowledge, I should think that by no means 10 per cent. has been made at simple interest, without allowing any extra interest for the redemption of capital."

In 1813 coals were from 52*s.* to 55*s.* 9*d.* per chaldron; and in 1832, from 25*s.* to 31*s.* In 1833 the price was from 15*s.* to 18*s.* per ton. The difference in price at the two periods when the demand for coal is likely to be most dissimilar—January and July—has gradually become less striking.

Previous to 1831 the price paid by the consumer for a chaldron of coals was apportioned in the following manner:—

		s.	*d.*
Coal-owner. for coal		13	9
Coal-fitter, keel-dues, &c.		2	3
Shipowner, for freight, &c.		8	6⅛
Municipal dues at Newcastle		0	8¼
Government tax		6	0
Municipal dues in the port of London		4	4⅜
Coal Factor, commission		0	4⅛
Coal merchant		12	6
Sundries		2	2⅛
	£2	10	7⅛

The alterations which have taken place since this period, first in the abolition of the Government tax of 6*s.* per chaldron, and next in the fees which were paid to the meters, which amounted to upwards of 24,000*l.* a-year, have rendered coal much cheaper, it is true; but there are still many vexatious regulations which enhance its price, and which ought to be modified or abolished. A sum of 25,000*l.* a-year is paid annually to the Corporation of London for "metage," and is claimed as one of their prescriptive rights; but it might be advantageously commuted, as the Richmond duties have been. A further sum of 63,000*l.* a-year, paid as orphans' dues, will expire in the course of a few years. Some of the other charges are also susceptible of considerable reduction, amongst which is the enormous sum of 107,000*l.* a-year paid to the coal-whippers, which, as it has been stated, benefits a number of publicans at the expense of the health and morals of these men. The charge for the work which they perform is 1*s.* 7*d.* a chaldron, whereas at Newcastle and Sunderland the waggons are filled at a cost of only 1¼*d.* or 1¾*d.* per chaldron; the additional labour of raising coal a little greater height in the former case would be well paid by an allowance of 4*d.* per chaldron. If the trade were free, the public would not be burdened by the support of the odious monopoly of the publicans.

It will be seen that the cost of bringing coal from the ship to the consumer's cellar exceeds the original price of the article, and is also much higher than the expenses of transit from the pit's mouth to the Thames. The charges of the London coal-merchant, amounting to 12*s.* 6*d.* per chaldron, consist of the following items:

	s.	*d.*
Buyer's Commission	1	0
Lighterage	2	0
Cartage	6	0
Credit	2	0
Shootage	1	3
Sundries	0	3
	12	6

The charge for lighterage very much exceeds in amount the charges paid in the North for a similar sort of work. Mr. Buddle states that the Tyne keelmen, who take the coal from the spouts, or staiths, to deliver into the vessels, are paid 1*s.* 3*d.* per London chaldron for navigating their keels from seven to eight miles, and casting the coals into the ship, a height of five feet, independently of the horizontal distance which it is requisite to project them to reach the port-hole of the vessel into which they are loaded: in addition to which the keels will cost them from three-halfpence to twopence the London chaldron; "so that our keelmen have not so much as the lighterage in London comes to for merely carrying the coal from the side of the ship to the wharf; although the keelmen navigate the vessels from seven to eight miles, and discharge the cargo by shovelling it out of the keels into the ship."

The price of cartage in London Mr. Buddle also thinks enormous. "In the North," he says, "we let cartage by contract, including the loading, at 7*d.* to 8*d.* per ton, per mile, on turnpike-roads, and at from 9*d.* to 10*d.* per ton on heavy country-roads; so that the price of cartage in London is from four to five times as much as we pay for it in the country." In allusion to the charge of 1*s.* 6*d.* for "shootage," which is paid in London for shooting the coal down into the cellar, Mr. Buddle says that, "at the rate we pay our waggon-men for filling the waggons, I believe they would be very glad, for twopence, to heave these same coals out of the cellar again *up* the hole."

The artificial circumstances in which, until a recent period, the coal-trade has been placed, may have occasioned some of the charges noticed above to have risen beyond the usual cost of labour; but it is highly probable that, in proportion as the influence of this state of things decreases, that the coal-trade will not, any more than other branches of enterprise, present such anomalies as those described by Mr. Buddle.

Mr. Taylor, an experienced individual connected with the coal-trade, laid before the Lords' Committee the following estimate of the consumption in Great Britain:

	Tons.
The annual vend of coal carried coastwise from Durham and Northumberland is	3,300,000
Home consumption, say one-fifth	660,000
	3,960,000
Which quantity supplies 5,000,000 persons; and supposing the whole population to amount to 15,000,000, the estimate will therefore be	11,880,000
Consumed in Iron-works	3,000,000
Annual consumption of Great Britain	14,880,000
Exported to Ireland	900,000
	15,780,000

Mr. Taylor has not, in this estimate, taken into account the foreign export of coal, which, in 1833, was 634,448 tons. The population of Great Britain is now about 17,000,000. The estimate will therefore stand thus:—

	Tons.
Consumption of 15,000,000 inhabitants	11,880,000
Add for consumption of 2,000,000, the additional population	1,584,000
Exported, in 1833, to foreign countries	634,448
Exported to Ireland	900,000
Consumed in Iron-works	3,000,000
	17 998,448

Mr. Buddle supplied some interesting information to the Parliamentary Committee. On being asked if he had anything to state respecting the number of men and ships employed on the rivers Tyne and Wear, he said that he had made a summary—"that there are seamen, 15,000; pitmen and above-ground people employed at the collieries, 21,000; keelmen, coal-boatmen, casters,

and trimmers, 2000; making the total number employed, in what I call the Northern Coal Trade, 38,000. In London, whippers, lightermen, and so forth, 5000; factors, agents, &c., on the Coal Exchange, 2500; 7500 in all. Making the grand total in the North country and London departments of the trade, 45,500. This does not, of course, include the persons employed at the out-ports in discharging the ships there."

The above return is strictly confined to the Tyne and Wear, and does not include Seaham, Blythe, Hartley, or Stockton. From it we may obtain a tolerably accurate approximation of the numbers employed in the trade of Great Britain. In the first place, then, it may be inferred that as the produce of the collieries on the Tyne and Wear does not exceed 3,000,000 tons, and employs 21,000 men, the whole of the collieries in Great Britain, as their produce is six times greater, will employ at least .... 121,000 men.

For the supply of London with less than 2,000,000 tons of coal, the shipping on the Tyne and Wear employs 15,000 seamen; and as the whole quantity shipped coastwise in 1833 was nearly 6,000,000 tons, the number of seamen employed in the coal-trade must be.............................. 30,000

London consumes one-ninth part of the produce of the mines of Great Britain; and as the number of factors and individuals to whom the trade gives employment in the metropolis amounts to 7500, the number for Great Britain is probably 45,000

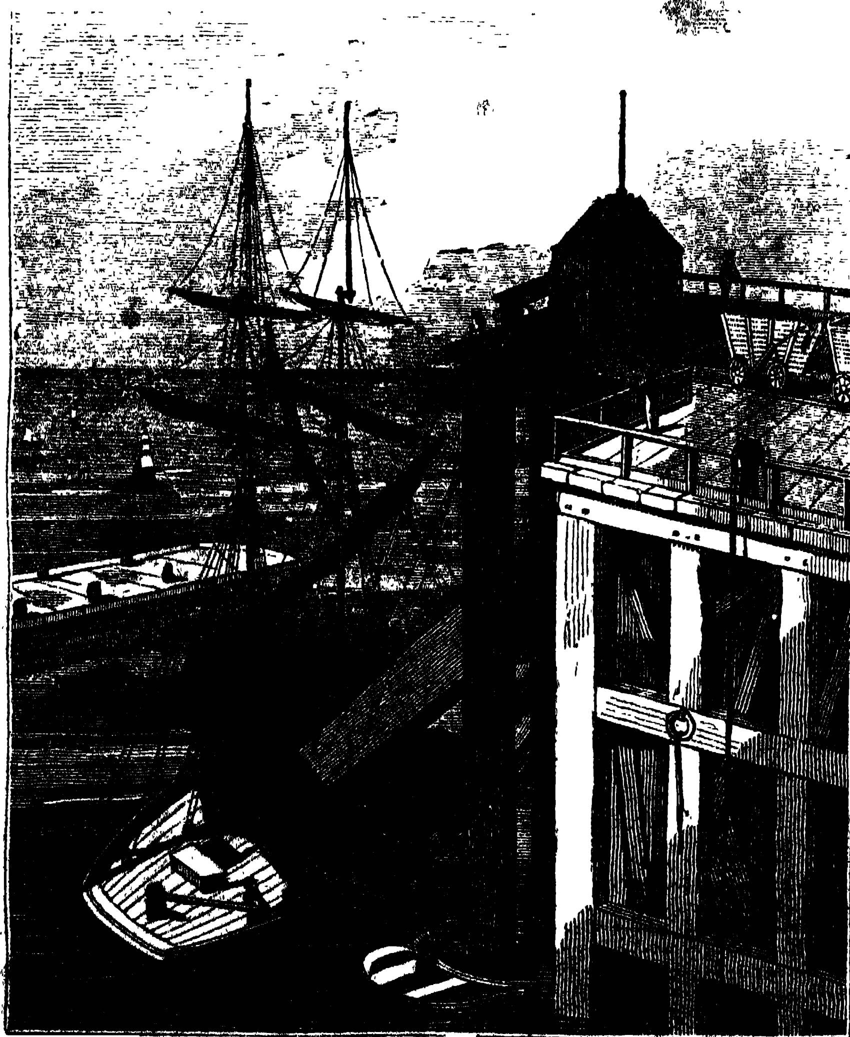
The bargemen employed on the Tyne and Wear are 2000 in number;—for the whole country the number cannot be less than .... 10,000 men.

The population to whom the coal gives direct employment is therefore about 206,000

Mr. M'Culloch estimates the number of individuals employed at from 160,000 to 180,000; but the increase in the consumption which has taken place since the abolition of the coast duty has enabled the consumers to go to market every year with nearly a million of additional capital, and the use of coal in gas-works, and for a variety of purposes, has therefore been considerably extended.

The capital employed in collieries, on the Tyne and Wear, Mr. Buddle estimates at about 2,200,000*l.* Mr. M'Culloch estimates at 10,000,000*l.* the capital employed in the coal-trade of Great Britain.

Camden remarked, about two centuries and a half ago, that "sea-coal are dug in great plenty, to the great benefit of the inhabitants." We shall not stop to inquire what signification he attached to the expression "great plenty;" but if the benefits arising from the use of coal were apparent then, they are now increased a thousand-fold, and the possession of an almost inexhaustible source of supply of coal has become one of the most important of our national resources, with which the stability of our manufactures, commerce, and strength as a nation is identified.



[Seaham Harbour Coal Staith.—Mode of Loading by the Spout.]

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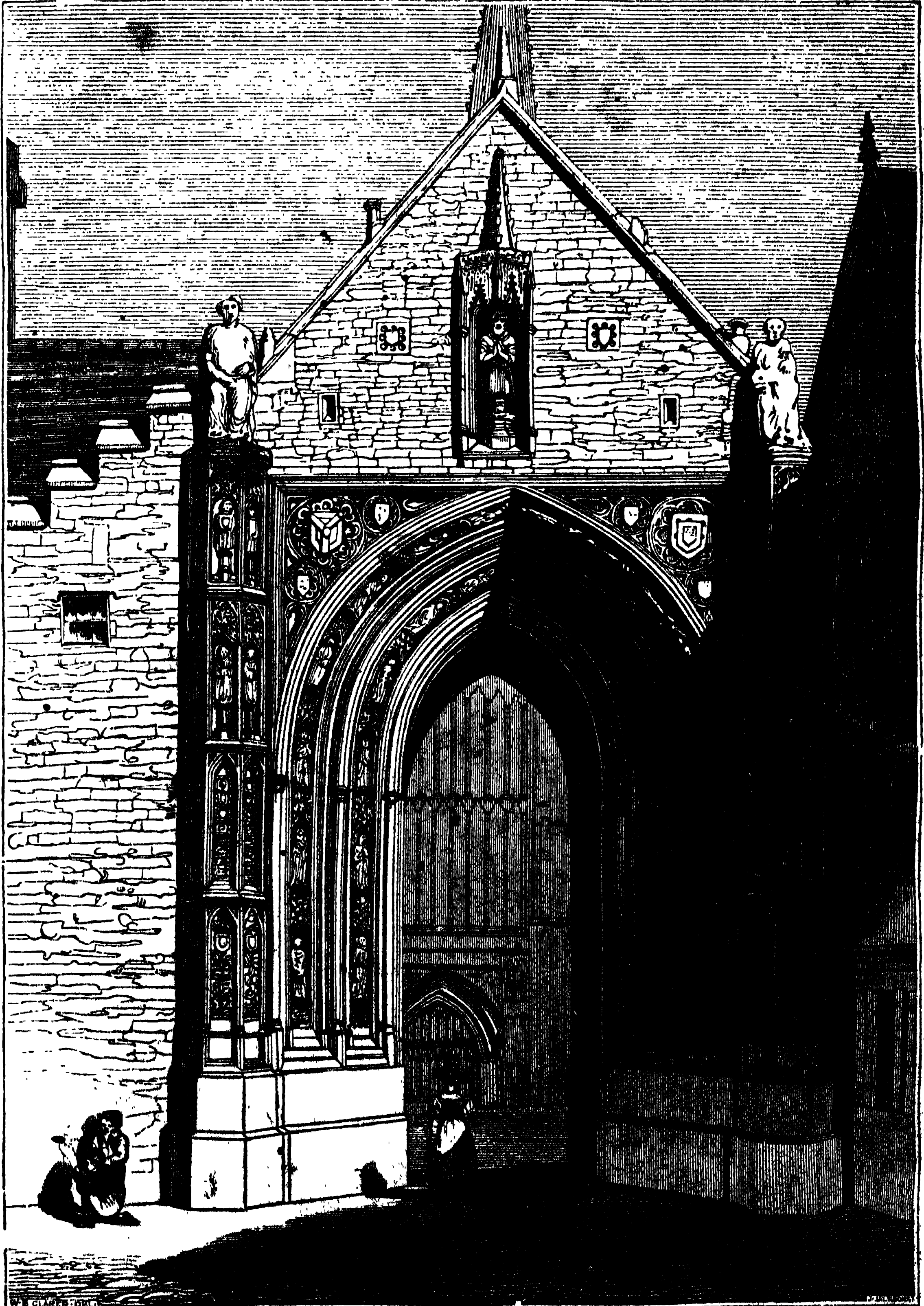
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THE ERPINGHAM GATEWAY, NORWICH CATHEDRAL.



[Erpingham Gateway.]

The Erpingham Gateway, or Gatehouse, though merely an adjunct of Norwich Cathedral, (of which an account was given in No. 193*) is the most striking object connected with that ancient edifice. It is in a very good state of preservation, and as an architectural design it must be regarded, to use the words of a competent judge, "as original and unique." The history of its erection is not without interest; and we shall therefore give a few particulars respecting its founder and foundation, previously to describing the building itself.

Sir Thomas Erpingham, the head of a Norfolk family of ancient repute, was one of the eminent men of the age in which he flourished. He appears to have been a favourite of both Henry IV. and Henry V.; signalised himself at the battle of Agincourt; in 1385, had the King's protection on accompanying John, Duke of Lancaster, into Spain; in 1399 was Chamberlain of the Household, one of the barons of the Cinque Ports, warden of Dover Castle, and was also one of the lords who voted that Richard II. should be put into safe custody.

The then bishop of the diocess, Henry Spencer, was termed, even in that age of military ecclesiastics, the "Warlike Bishop of Norwich." In his youth he had been a soldier, nor did his elevation to the episcopal bench repress his martial propensities. Bold, resolute, and haughty, he alternately tried his strength with the people, his own clergy, and the nobility, and never failed of success. He was impeached in Parliament for having personally engaged in the contest between the rival Popes, Urban VI. and Clement VII.; but boldly repelled the charges preferred against him, and was acquitted. Where his pride and passion were not thwarted, his jurisdiction was generally marked by judicious measures; and notwithstanding his despotic character, he was in considerable esteem as a man of no mean attainments. But he was a bigot: "no heretic," says Blomefield, "was allowed to dwell in his diocess, and because the Lollards, or followers of Wicliffe, were so esteemed, he was a rigid persecutor of them, declaring if he found any in his diocess he would make them either hop headless or fry a fagot." "Such effect," he quaintly adds, "hath false-grounded zeal even on learned and *good* men."

Sir Thomas Erpingham became a patron of the Lollards, and exerted himself with some zeal and energy in disseminating their principles in Norfolk. But neither the rank of Sir Thomas, nor the favour in which he stood with his royal master, deterred the bishop from laying hands upon him. He was arrested, and thrown into prison; and the price of his release was a renunciation of "Lollardy," and the erection of the gatehouse "at the entrance of the precinct over against the west-end of the cathedral" as a public atonement for his heresy. Sir Thomas was subsequently reconciled to the bishop by the commands of the King (Henry IV.), who, in a Parliament held February 9th, 1400, declared that the proceedings of the bishop against the knight were good, and originated in great zeal, and also directed them to "shake hands and kiss each other, in token of friendship, which they did; and it afterwards proved real, Sir Thomas becoming a great benefactor to the cathedral, and a firm friend to the bishop as long as he lived."

It is not improbable that Sir Thomas Erpingham, in patronizing the followers of Wickliffe, was more influenced by his wife, than by any settled principle of esteem and regard for the new doctrines of the reformers. His first wife, Joan Walton, died in 1404, four years after the event already related; and in her will "she mentions no saints, but commends her soul to God only;"—a circumstance which indicates that though, out of regard for her husband's safety, she might suppress any open show of attachment to the persecuted doctrines and people, she still retained her principles. The after life of Sir Thomas unequivocally demonstrates the sincerity of his renunciation; and at his death, amongst other bequests, he gave 300 marks to the prior and convent of Norwich, to found a chantry for a monk to sing daily mass for him and his family for ever, at the altar of the holy cross in the cathedral.

The following quotation from Mr. Britton's work on Norwich Cathedral, gives the author's opinion respecting the Gateway, as well as a description of its details:—

"Amongst the great variety of subjects and designs in the ecclesiastical architecture of England, the Erpingham Gatehouse may be regarded as original and unique; and considering the state of society when it was first raised, and the situation chosen, we are doubly surprised, firstly at the richness and decoration of the exterior face, and secondly in beholding it so perfect and unmutilated after a lapse of four centuries. The archivolt mouldings, spandrils, and two demi-octangular buttresses, are covered with a profusion of ornamental sculpture; among which are thirty small statues of men and women, various shields of arms, trees, birds, pedestals and canopies; most of these are very perfect, and some of the figures are rather elegant. The shields are charged with the arms of Erpingham, Walton, and Clopton, the two latter being the names of two wives of Sir Thomas Erpingham. In the spandrils are shields containing emblems of the Crucifixion, the Trinity, the Passion, &c., whilst each buttress is crowned with a sitting statue; one said to represent a secular, and the other a regular priest. In a canopied niche, in the pediment, which is plain, and composed of flint, is a kneeling statue, supposed to represent Sir Thomas. About half way up the gable on the parapet, are two pedestals, with parts of figures emblematic of two of the evangelists, and two others were formerly higher up."

There is a word or inscription repeated four times on a scroll on this gateway, which has been read by Sir Thomas Brown, and others as PÆNA or PENA, for *penance;* but Dr. Sayers suggests that it should be read YENK, an abbreviation for *thank*, as expressive of Sir Thomas Erpingham's thanks for the bishop's pardon—a reading which Mr. Britton thinks more probable than the former one.

* In that account we omitted to state that the south front of the transept has been lately restored in a most satisfactory manner, and that the repairs and restorations are being still farther proceeded with.

A LITTLE KNOWLEDGE.

[From a Correspondent.]

"A little learning is a dangerous thing;
Drink deep, or taste not the Pierian spring;
There shallow draughts intoxicate the brain,
But drinking largely sobers us again."

POPE.

I cannot but think that a large proportion of the readers of the 'Penny Magazine' must consist of persons who, without any advantages of education,—or of more than an elementary education—have managed to collect a good share of floating knowledge; and have had their minds opened to receive a larger portion of the pleasant and useful things which knowledge offers than has yet become common among persons in the class of society to which they belong, and with whom they are associated in the external relations of life. I have often been disposed to wish that the 'Penny Magazine' might become, in some degree, a vehicle through which such persons might state

their encouragements and difficulties—their pleasures and vexations—for the benefit and guidance of others who may be similarly circumstanced. In past Numbers there are a few papers of this description, which would seem to indicate that there is no objection to insert such communications. I therefore thought it might be well to transmit some observations I wish to make upon the old proverb, that

"A little learning is a dangerous thing."

I call it a proverb, because I knew it as such long before I was aware of its existence in Pope, in the passage which I have quoted at the head of this paper; and even now it seems to me uncertain whether Pope adopted a proverbial expression already existing, or that the expression has become proverbial from his use of it.

The expression, as proverbially used, does not limit the application of the term "learning" to classical or philological attainments, but employs it as synonymous with "knowledge;" and the sentence, therefore, as used and received, says the same as that "A little *knowledge* is a dangerous thing." I have no doubt that Pope intended to restrict his satire to the "intoxication" which a smattering of the classics was apt to produce in weak brains. But I have only to do with it in the sense in which it is vulgarly understood and applied.

I heard this expression so soon, and have heard it so often, that it has quite escaped my recollection at what period I actually heard it for the first time. My recollection is perfectly correct, however, in this, that whenever I did hear it, it was always intended as a sneer or a damper, and was always so received.

I am not going to relate my history; but I may say, in a few words, that I am one of the class of persons to whom I adverted at the commencement. At a very early period of life, and in the midst of untoward circumstances, and of occupations which left me the least possible leisure, I was a diligent collector of all the odds and ends of knowledge that fell in my way. I read all the bills that were posted upon dead walls and empty houses. I studied all the title-pages and open leaves that appeared in the windows of booksellers' shops; joyfully hailing the day when the windows of a particular shop were cleaned, and a change of books and pictures introduced. Sometimes, also, when I was allowed a little leisure, I brushed myself up as smart as possible, and ventured so far on the respectability of my appearance as to make the tour of the book-stalls, pausing at each; and, after dallying a little, "about it and about it," taking up some humble-looking volume and devouring so much as was possible of the information it afforded with the utmost intensity of appetite, and with all the excitement that attends a stolen enjoyment. In process of time, I knew well the state of every book-stall, and could tell at a glance what books had been sold, and what additions had been made since my last visit; and many severer troubles in my subsequent life have made my heart ache less than sometimes to find a book gone from which I had calculated on gleaning more information on a second occasion than my first spell at reading had enabled me to obtain. I knew perfectly the dispositions of every proprietor of a stall in the three towns of Plymouth, Devonport, and Stonehouse, and could tell to a minute how long I might dabble at his books before he would look sour: and in process of time, most of the stall-men, on their part, became habituated to me, and came to regard me as a tolerated nuisance, or as one of the customary inconveniences incident to the trade. Not one of them knew anything about me: but experience taught them that I was honest; and as I handled their books with the utmost tenderness and respect, and was careful that my presence should not interfere with actual customers, I do not remember that I ever received a check or rebuke from any stall-man in the whole course of these knowledge-hunting expeditions. How precious these opportunities were, and how dear the recollection of them are to me even now, can only be adequately understood by the few who have realised similar enjoyments, and can indulge in similar recollections.

Thus, and otherwise, I was enabled to collect a number of miscellaneous facts in sundry departments of knowledge, but without being in possession of the links necessary to bind them together, and form them into a connected system. But even as detached facts they were valuable; and when I obtained one fact that seemed new, striking, and important, I felt a thrill to my very soul, as if I had found a blessing: and so I had.

I was always rather reserved and timid in my habits. No one could talk less than I was in the habit of doing; and I feel assured that I made as little display as possible to others of the information I had acquired. Yet there is, as I can *now* understand, in all knowledge, even in the knowledge of naked facts, something that *opens the mind*—I love this expression—and raises the tone, not only of thought and feeling, but of language and general deportment: thus, in the course of time, forming a distinction, more or less marked, between one who is ignorant and another who is partially informed.

As I thus went on, adding gradually to my little store of knowledge, I heard with increasing frequency the expression,—

"A little learning is a dangerous thing."

I paid small heed to it at first; but ultimately its application became so evidently pointed to myself personally, that it was no longer possible for me to misunderstand its intention. I took it as intended, and its effect was discouraging in the extreme; for I had not advanced so far as to receive otherwise than as gospel truths the proverbs and popular sayings in which past ages have condescended to concentrate their wisdom. I saw clearly that if this saying were true, and I doubted not it was true, I was every way undone. I saw no reason to hope that I should ever possess opportunities and leisure sufficient to render the utmost amount of my knowledge more than "little." If that small amount of knowledge to which I might aspire were really dangerous, the search for it ought to be immediately relinquished; but then, on the other hand, my habits and tastes were entirely turned to the pursuit, which seemed to me as that which was alone adequate to soften the bitterness and toil of the life I lived and was to live thereafter.

I remained for upwards of a week in the utmost doubt and perplexity; but at last it occurred to my mind that it was barely possible, after all, that the saying was not true. It was Sunday, and I had leisure. I instantly wrote out in big letters the sentence,

"A LITTLE LEARNING IS A DANGEROUS THING,"

and, placing it before me on the table, sat down with a resolute determination not to rise until I had satisfied myself as to the truth or falsehood of the position it contained. I leaned over it with both my elbows on the table, and felt as if I would subject to the most minute analysis every separate letter of which the sentence was composed. I will endeavour to state as briefly as possible the result of my cogitations on this occasion.

I saw that it was necessary in the first instance to inquire whether knowledge was, in itself, a good or an evil. If an evil, it must remain so whether the quantity were great or little; if a good, it would be interesting to inquire what peculiar quality it was in this good which could render a small quantity of it an evil. Many large folios have been written on smaller subjects than this;

and my own considerations upon it were of some length on the occasion I have mentioned; I cannot, therefore, do more than furnish for your pages a summary of the process by which I arrived at my conclusions.

It seemed to me, in the first instance, difficult to bring the mind to entertain the question, whether knowledge were a good or not; it appeared such an absurdity to suppose that it could be otherwise than good. I tried hard at it, however, but found it impossible to make out that knowledge, considered in itself, separately from all agencies and influences, could be otherwise than good. In this I now know that I differed from some who consider knowledge in itself of a neutral quality: but I am still of my old opinion.

Perceiving that all was safe on this side, I turned round to try if knowledge were more vulnerable on another. I inquired to what extent knowledge might become evil in connexion with agencies and influences. Answering one proverb by another, I said, "What is one man's meat is another man's poison." Can knowledge, the meat by which the mind lives, ever become poison?

I paused a full half hour over this question, and then I looked up, and, with great pain and heaviness of heart, answered, "Yes!" I saw room to believe that there were hands which could turn fine gold to brass, and minds which could extract deadly poison from that which was nourishing food to others. I went on multiplying instances that knowledge was liable to corruption and abuse—was liable to become an instrument of evil. Oh, certainly, certainly, what is one man's meat is, indeed, another man's poison!

At the moment I had arrived thus far in my disheartening conclusions, I saw the whole question take a turn which made my heart leap tumultuously with the most boundless exultation. I saw, at one view, that precisely the same arguments which could be brought to make the excellence of knowledge questionable, could be equally brought to make questionable the excellence of everything that is commonly considered good. No sooner did I turn my head from knowledge, in search of some better and less corruptible thing, than I immediately saw that all other reputed goods were in the same predicament with knowledge—all corruptible—all liable to abuse; and therefore, that if knowledge were not good, there was no good thing under the sun. Still it was true that what is one man's meat is another man's poison: but is the meat the less a good, less valuable, less nourishing, because some stomachs are too weak to receive it or profit by it, and others possess so diseased an idiosyncrasy that the meat of other men becomes poison to them?

But still the question is, whether "a little learning is a dangerous thing?" It is admitted that much knowledge is good; but *a little* is dangerous and evil. If this be true, knowledge is very unhappily and peculiarly circumstanced. There is no other good of which a little is said to be dangerous. Take bread, the staff of the physical life, as knowledge is of the intellectual life;—who says that a little bread is a dangerous thing? A quartern loaf is certainly most desirable; but those who cannot get a quartern loaf, will declare a crust to be better than no bread at all. Is he wise who rejects all bread because he cannot get a quartern loaf—or who eats no meat, because he cannot get a leg of mutton?

The more I considered it, the less I seemed able to understand why, of all things, a little knowledge should be dangerous. If it were so, it would be wrong in any man, high or low, to seek knowledge; because, as the knowledge of every one can be but little at the commencement, every seeker of knowledge must, for a considerable time, be in a dangerous position. I had a notion that the insinuation referred in some measure to the presumed effect of a little knowledge upon the conduct and disposition, in making a man dogmatical, vain, and conceited; but I placed no stress on this, because I felt that the real effect of a little knowledge was to humble a man in his own sight, and to make him feel his own ignorance. I knew that in my own case this was the result; and that it operated in making me desirous of enlarging, indefinitely, the sphere of my information. There is no denying that fools may be injured, in the way supposed, by a little knowledge. They may be injured by anything, and can be benefitted by nothing. But in forming general conclusions, we are not to consider how things affect fools; but how they affect men of average character and understanding.

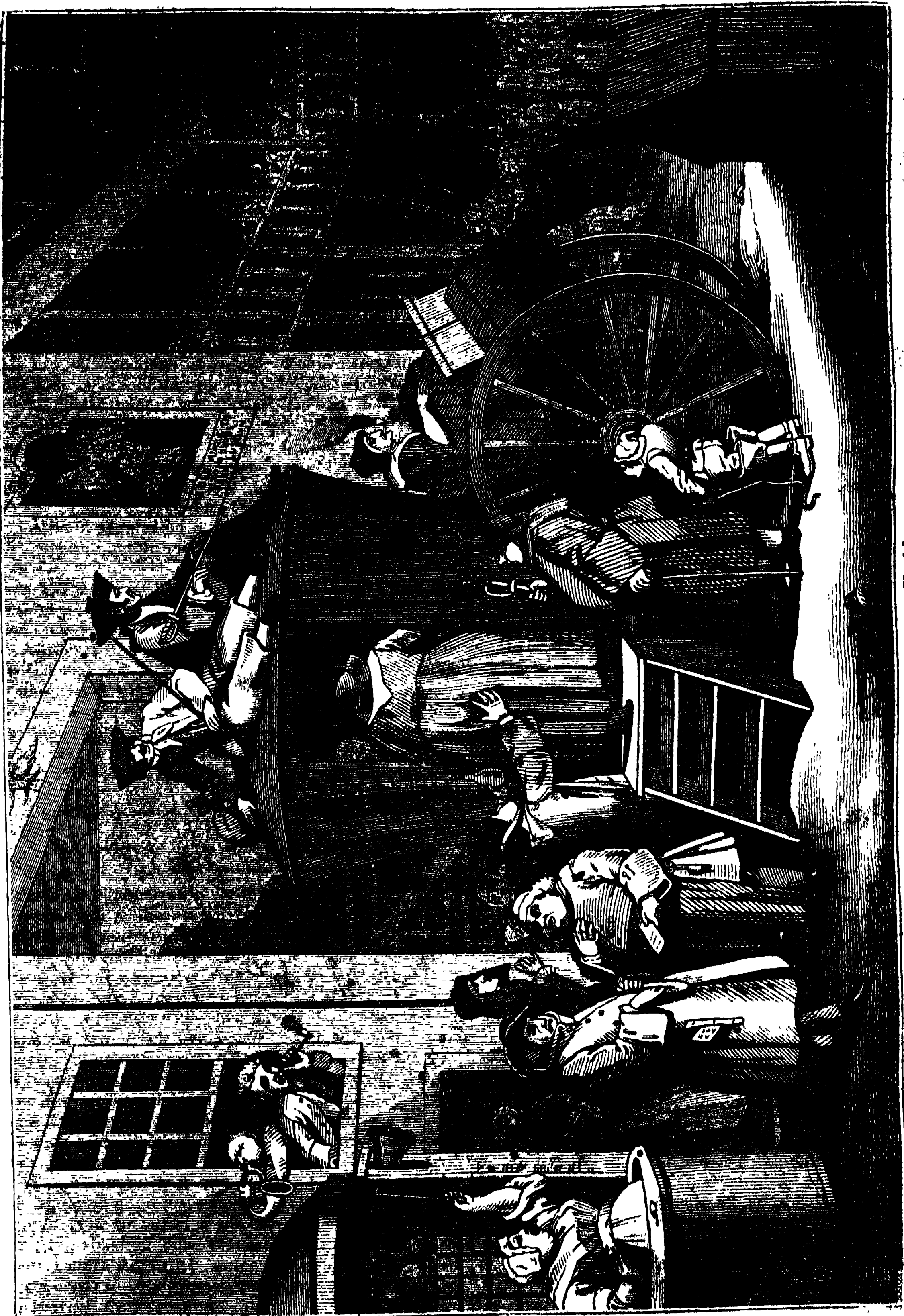
Besides, I did not feel it easy to say what that amount of knowledge is which can be properly described as "little." No man who has so much knowledge as to distinguish him in his own sphere of life, can be said to have little knowledge; although it may be little if we compare it with the amount which is required to distinguish a man in another and higher sphere. An artizan, with his reading, writing, and arithmetic, has the instruments of as great a quantity of relative knowledge as the University scholar, with his Latin, Greek, and algebra; and if the mechanic superadds Latin, Greek, and algebra, his relative knowledge greatly exceeds that of the scholar, although its actual amount may be much less.

I really think I could go on with these considerations till I filled a Monthly Part of the 'Penny Magazine.' I have explained myself a little however, and am now content to pause. It is only necessary to state that I arose from the table perfectly satisfied that knowledge —even a little knowledge—was a very good thing; and that I would myself persevere in the pursuit of it. So I did, to the extent of my opportunities; and in the fifteen years which have since passed I have seen no reason to question the propriety of the conclusion at which I then arrived.

HOGARTH AND HIS WORKS.—No. XIV.

Stage Coaches.

The present engraving affords a curious illustration of the peculiarities of stage-coach travelling in the early part of the last century. This illustration constitutes its chief interest to us; and it has thus, like some other of Hogarth's works, become invested, by the lapse of time, with a kind of interest different from that which it possessed for our forefathers. The scene is a country-inn yard on the Dover road; and the precise inn was probably sufficiently indicated to contemporaries by the sign, containing the figure of an angel with the inscription, "The Old Angle In, Toms Bates from London," a specimen of orthography the like of which was doubtless much more common in Hogarth's day than at present. Of the several characters introduced, the passengers seem to claim our first attention. The dimensions of the bulky female seem but ill adapted to those of the vehicle which she is in the act of entering, assisted by another passenger who is holding up a dram-bottle with his left hand. This circumstance, and indeed the whole scene, is well calculated to remind the reader of the descriptions of stage-coach travelling which were, a few years previously to the date of this picture, given by Fielding in 'Joseph Andrews.' This female, with the equally-stout man waiting for his turn to enter, seem, between them, to make out a bad case for the rest of the passengers. From the comfortable dress and well-fed appearance of this last person, together with the sword in his right hand, he seems to be in good circumstances; but he gives no attention to the little stunted and deformed postboy who, with cap in hand, solicits the customary fee. This little figure



[Hogarth's Country Inn Yard.]

seems introduced as a contrast to the other; while the corpulent landlord and equally stout landlady have a different, but equally-marked contrast, in the tall old lady near the door dressed* in a joseph and velvet riding-hood. The other inside passenger is the well-dressed gentleman settling his account with the landlord, who seems solemnly attesting the reasonableness of his charges, which, from his severe countenance and the act of parliament peeping out of his pocket, the other seems much in the disposition to question. It is worthy of notice that the principal figures in this picture are so disposed as to produce the effect of a pyramid, according to the rules recommended by the practice of some great masters. Of this pyramid the apex is formed by the two outside passengers who are perched rather uncomfortably on the top of the coach. One is considered to be a French valet, and the other is certainly an English sailor, whose company seems likely to render the journey sufficiently unpleasant to the Frenchman The other outside passenger is the old

woman seated in a basket, and smoking a pipe among the luggage behind the coach.

The horrible din produced by the man who is blowing a French-horn out of the window, and by the landlady who is bawling and ringing the bar-bell for the maid, must be left to the imagination. Nor is this all; for the time seems to be that of an election, and a chairing, with all its uproar, is going on in the background. It is but a mock chairing, however; for, in derision of the age and incapacity of one of the candidates, the mob are parading a man dressed in swaddling-clothes, with a horn-book in one hand and a rattle in the other.

This engraving affords us an opportunity of stating some facts in the history of stage-coaches which we have collected from various sources, and which will be new to many of our readers.

The precise year in which stage-coaches were introduced is not well ascertained. It seems, however, from comparing statements, that something of the sort, for short stages, was in use earlier than what we now call "hackney-coaches." Indeed, it seems that the first instance in which carriages were applied to public accommodation for hire was in the instance of the vehicles which started regularly from Hackney, taking up casual passengers whom they set down in London. These were called "hackney-coaches;" but evidently had more resemblance to short-stage coaches, or rather omnibuses, than to our hackney-coaches: and this resemblance to omnibuses seems to have held good also in the general form of these vehicles, which are described as resembling the caravans seen at country fairs, but without windows. When the present hackney-coach system was first introduced into London, the public did not impose any new name upon the vehicles thus employed, but called them by the previously-familiar name of hackney-coaches, which, in time, became exclusively restricted to this class of vehicles. The distinction between stage and hackney coaches does not appear to have been definitely established till the reign of Charles II., towards the end of which we still find stage-coaches called hackney-coaches, when the context did not render it necessary to employ a more distinctive appellation.

Stage-coaches appear to have begun to be established on the great roads towards the end of the reign of Charles I.; and in that of Charles II. they had become so numerous that the tradesmen in and near London, at the latter end of that reign, took it into their heads to consider the existence of such vehicles a public evil, and, in a spirit very much like that which dictated a late petition from the same quarter against cabs and omnibuses, petitioned the king and privy-council to put an end to the stage-coach nuisance. This was met by a counter-statement from the stage-coach proprietors, of which we have been fortunate enough to obtain a copy, and will now give an abstract of it, for the benefit of our readers, retaining generally the words of the original.

After stating that they had, about thirty years previously, established stage-coaches, and since continued them at great expense and risk, they proceeded to say that the prejudice that would accrue to his Majesty's subjects in general would be evidently much greater, by the putting down of the said coaches, than the disadvantage that can be imagined to fall upon any person should the same be continued; though withall, were it admitted that all the petitioners were damnified thereby, yet their interests all conjointly are not to be respected in comparison of the public, nor to be put in the balance with it.

As to the charge that the coaches had injured the profits and rents of inns, they think it must rather have arisen from other causes; but, even admitting the truth of the charge, it is added with much good sense, that "that trade, as all others, being only intended for the benefit of the publike, their private profit is not to come in computation with it, for the people are not made to enrich inns or any other trades, but all trades for the benefit and service of the people, and all conjoyned together are but as a particular interest in comparison thereof."

The charge that the consumption of provisions for man and beast had been lowered, and the rents of lands brought down by means of stage-coaches, is met by a flat denial. As to horse-meat, each of the stage-coach horses eats three times as much as any saddle-horse that travels; and in their coaches there is not less, taking one time with another, than one horse for every passenger that travels upon the roads: and besides this the number of saddle-horses had not diminished in consequence of the establishment of stage-coaches.

With any diminished consumption of man's meat, the memorialists do not consider that they have anything to do. "It is either the laying aside the ancient way of hospitality and good house-keeping, or else the poverty of the country, and not the *hackney-coaches* [evidently describing *stage-coaches* by this term] that hinders the consumption thereof."

The manner in which they meet the charge that the breed of horses had been deteriorated through the stage-coaches, is very curious. They contend the breed has rather improved; "for that the stage-coaches kill more horses in one year than those who travel upon saddle-horses do in three; and so occasions more vent for breed thereby, and more encourages it. And besides, few or no gentlemen keep a saddle-horse the less for the use that they make of stage-coaches, having the like need of them for travelling about their occasions in those parts of the country where the stage-coaches go not, that they had before."

In the remaining paragraphs the coach proprietors meet the charge that good horsemanship will be lost by the establishment of stage-coaches; and deny that the revenue from the excise and post-office is diminished through them, remarking very justly, that the more the intercourse between the different parts of the country is facilitated, these branches of revenue must necessarily be benefited in the same proportion. They had been charged with "hindering the breed of watermen;" but they reply that the stage-coaches which went upon the great roads, far from the Thames, were not to blame for this, but rather the hackney-coaches in and about London.

It seems that the hackney-coach proprietors in London were parties in this petition against stage-coaches. But the result of this attempt to put down an important public convenience was as unsuccessful as every similar attempt made by the few against the welfare of the many must ultimately prove, whatever temporary success it may obtain. The complaints against stage-coaches in the reign of Charles II. might be matter of great wonder to us in the reign of William IV., but the clamour on every side about the "cab and omnibus nuisance" in the present day is so much in the same spirit, that our wonder at such short-sighted objections is not equal to the pain with which we perceive that in the public mind there remain dark and narrow crannies which the gradually increasing light of 150 years has not yet been able to penetrate.

The futility of the objections urged against stage-coaches is, in general, so well demonstrated in the memorial we have quoted, that it only remains for us to imagine how we should have been circumstanced if, in compliance with the petition, the improvement in question had been put down. Our civilization would certainly have been of a much lower standard than at present; for there is no single circumstance, or rather

combination of circumstances, by which civilization is so much promoted as by the existence of facilities for an extended personal, epistolary, and commercial intercourse between the different parts of a country. Wherever such facilities do not exist, or exist but imperfectly, we may safely pronounce the people barbarous, and shall only be liable to mistake in estimating the degree of barbarism. If stage-coaches had not been established, a native of an inland town 100 miles from London, in removing to the metropolis, would be almost as effectually separated from all his old connexions as if he had removed to America. Such periodical visits as those in which he may now indulge at a small expense, and with little loss of time, would be an expensive luxury, only to be enjoyed by those who possessed or could hire a carriage or horse, or could submit to the fatigue and delay of going on foot or riding in the waggon. A journey of 100 miles would then, except to the higher classes, be a serious consideration, involving much fatigue, privation, and loss of time and money; and few people engaged in any business would be able, more than once or twice in their lives, to make up their minds for such an adventure. We should not be much ahead of the inhabitants of the East, who, being in want of coaches, and of good roads, which arise from the use of coaches, are obliged so to travel, that about twenty miles is considered a good day's journey. Or, to take another instance, when we read, every year, the account of the meetings of the British Association, when 600 or 700 of the foremost men of the nation assemble in one particular town, from all parts of the United Kingdom, it is always one of our first considerations that such meetings would have been absolutely impracticable but for those facilities of intercourse by stage-coaches and steam-vessels which occasioned such a prodigious outcry at their establishment, and so many senseless complaints during their progress. We shall resume the history of stage-coaches in a following Number.

SOME RECOLLECTIONS OF THE EASTER HOLIDAYS IN THE SOUTH OF ITALY.

[Concluded from No. 197.]

But the pleasantest of my recollections are connected with an Easter I once spent in company with an English friend, far away from the crowd and uproar of Naples, and chiefly among the peasantry. At this season of the year the weather is most balmy and delicious in the south of Italy, and not too warm for pedestrian excursions, as it soon afterwards becomes. On the Wednesday of the holy week, in the good year 1822, we turned our backs on the capital, with the intention of walking to the ruins of Pæstum. We passed the whole of that afternoon among the streets of the disinterred city of Pompeii, which was more silent than ever, for there were no visitors, and the labourers employed in the excavations had all given over work, and gone to their homes to keep holiday. On the following evening, as we were walking through the beautiful mountain-pass which leads from the town of La Cava to Salerno, we fell in with many little groups or companies of peasants, who all had their conical hats ornamented with olive twigs, and olive branches twined round their spades, and hoes, and other implements they were carrying on their shoulders. They had been out to work on the other side of the mountains, and were now returning to their own homes, to spend their Easter holidays with their families and friends. Some of them had almost reached their journey's end, and leaving the high road, sloped across the hills to certain little villges above the town of Amalfi, on the Gulf of Salerno; but others had still far to go, to the Pæstan plain, Eboli, the Cilento, and other districts. They all went happily along, singing from time to time, and evidently enjoying the prospect of a new meeting with their families, and a few days of festivity. As we left them, or as they left us, they wished us "*La buona Pasqua*," or Good Easter—a compliment omitted by very few persons we met. On drawing near to the town of Salerno, which is most pleasantly situated on the edge of the bay, the odour of incense which issued from it was so strong as to drown the scent of the wild myrtles and flowers that grew luxuriantly on one side of us, and of the marine plants and of the sea that lay on the other.

In the streets of the town the whole population seemed abroad, and with the peasants were walking from church to church to visit the sepulchres. We spent that night and the whole of the next day (Good Friday) at Salerno, and during that time there was a sort of holy quietness and repose in the place—an appearance of peace and good-will among all men, that affected us in no slight degree. Part of these happy sensations may have arisen from the beauty of the surrounding scenery, the deliciousness of the atmosphere, and the state of our own minds soothed by healthful exercise; but I am quite sure that a good portion of the pleasure was nothing but a reflex of the pleasure of the people we saw around us.

We continued our journey on Saturday morning, and reached the humble inn of the small town of Eboli in the afternoon. As we were resting awhile upon our beds before dinner, a priest came in and sprinkled holy water in the chamber, and then passed on to bless the other rooms of the house. This ceremony is performed in most houses just before Easter, and the country people will on no account dispense with it, as they hold the annual benediction efficacious in keeping sin and sorrow, evil spirits and ill luck out of doors. We sat down to our quiet meal as the church bells, in their usual manner, were tolling the "Ave Maria," and our main dish was, not a paschal lamb, but a kid, which, when *very* young, is, in my opinion, as good or even a better dish. The number of kids consumed at Easter, particularly in the pastoral districts, is very great.

On the next day, which was Easter Sunday, we walked over the Pæstan plain by Persano, and crossing the river Sele (the ancient Silaris), reached the ruined temples of Pæstum early in the afternoon. The only houses on the site of, or near to, that once splendid city, were a miserable little taverna, a hut, and a half-ruined edifice belonging to the bishop of the diocese, which is rarely or never inhabited. But in the taverna, where we were fain to take up our lodging, the host had collected his family and his friends from a distance, and these, with two or three buffalo herdsmen employed in the plain, were celebrating Easter in a room scarcely larger than the cabin of a merchantman brig. Lamb would have been too dear, and small kid too unsubstantial, for people in their circumstances, but they had had their *spezzato*, or cut of mutton, with some coarse maccaroni for dinner, and had done so much justice to them that nothing was left for us but some eggs, cheese, and cassatiello, or Easter bread. Several of the party had not tasted animal food of any kind since Christmas, and were not likely to taste it again for months. The extraordinary feast had made them very gay and communicative, and when we treated them with a few bottles of the cheap country wine they enlarged with much eloquence on the pleasures of *La buona Pasqua*, and told us all about their way of living in general. For myself, I never passed a pleasanter Easter Sunday in my life, though the only beds our host on this night could give us were two canvass sacks stuffed with straw: we did not fare much better, as far as bedding was concerned, on any one night of this Easter week. We rose the next morning—the gay morning of Easter Monday, at the dawn of day, and after having spent some time among the temples, which I had often visited before, found ourselves, at what was still an early hour, at the foot of the steep

mountain which forms the back ground of the plain in one direction, and on which the ruins of Capaccio Vecchio, a town of the middle ages, are most picturesquely situated. While we loitered at the roots of the hill to observe some hot mineral waters which well out there, we heard the distant sound of many voices singing a sort of hymn together; and presently we saw, high over our heads, a long procession, with here and there a banner displayed, marching in single file along a narrow path on the mountain's side. This procession, in which there was much order, was followed by a loose irregular line of people to which there seemed to be no end. The narrow path led to the ruins of old Capaccio; and when we climbed up the mountain to that spot, we found amidst fallen walls, ramparts, towers, and roofless houses, a church in good preservation, and on the esplanade or open space before it, a multitude of the peasantry bent on keeping the Easter Monday in their own way. At about nine o'clock the church was opened, and high mass performed with a good deal of magnificence. The banners carried in the procession were placed in the porch, and the interior of the church was decorated with tapestry, silks, olive-branches, and flowers. When the religious ceremonies were over, the esplanade assumed the appearance of the fair, for most of the peasants from the mountains and remote districts had brought something with them to dispose of, and wanted some other thing or things to be found at the general meeting. Many of these trading operations were, as in the infancy of society, carried on by direct barter, without the medium of any kind of money. A peasant from Persano, for example, gave a wolf's skin to a peasant from the Cilento, in exchange for a fixed quantity of almonds; a man from the Pæstan plain exchanged buffalo cheeses for dried figs brought from Capaccio Nuovo; another gave grannone, or Indian corn, for a pair of shoes; and the poor women, who were very busy, chopped and changed with an amusing variety of articles, as home-made cotton nightcaps, hanks of home-spun wool or cotton, linen head-gear, jackets, stockings, blankets, mole-skin purses, &c., &c. The number of skins of wild animals, particularly of foxes and wolves, was very considerable; and we learned, with some surprise, that the peasants were pretty generally in the habit of eating the wolves' flesh. There were two or three professional pedlars, with pins and needles, braids and tags, laces and ribbons, of small value; and one from Campoforte—the Sheffield of Naples—with scissors, knives, razors, and other hard-wares of rather primitive manufacture. While this business was going on, fires were lit in the open air, among the ruins, and the process of cooking carried on with much spirit. There was plenty of *spezzato*, maccaroni, red-eggs, cassatiello, and similar luxuries of the season, and no want of a good, light, mountain wine, which was contained, as usual, in goat-skins, and cost about a penny a quart. Many of the peasants brought their own provisions with them; but there were itinerant dealers from Capaccio Nuovo and the little town of Acropoli, to supply those who had not.

A little before noon, the whole assemblage, in separate knots, most picturesquely scattered on the mountain's side, and among the ruins, sat down to dinner. We scarcely passed one of these groups without some man in it saying courteously—*Signori, volete far Pasqua con noi?* (Literally—Gentlemen, will you make Easter with us?) When dinner was over, some of the parties began to sing; and there were a few men who played accompaniments on the mandolina, which is a sort of guitar much used by the Neapolitan people. This was followed pretty generally by dancing,—the smoother part of the esplanade in front of the church being almost covered by parties performing the tarantella or national dance.

At twenty-two o'clock, in Italian time, or two hours before sunset, the church was again thronged, and the priest pronounced the *benedizione*, or blessing.

As usual on most of these holidays, the poor peasants thus united devotion, business, and pleasure, all in one day; and I confess it appeared to me there was no impropriety or inconsistency in their so doing, but that on the contrary they had hit upon a very laudable and rational way of passing their Easter Monday.

Generally speaking, the men drank wine enough to exhilarate, without intoxicating them. In all that crowd, I did not see a single individual that could be called drunk. There was none of that squabbling and quarrelling so common on such occasions among the peasantry of the Terra di Lavoro, near Naples, who, taken altogether, are about the worst specimens of Neapolitans. Part of this may have arisen from the different nature of the wines, which in the Terra di Lavoro are mostly produced from volcanic soils, and are very heady and fiery; but I believe still more is to be attributed to the unwise and odious practice of sending soldiers, gens-d'armes, and sbirri, to attend all the popular meetings or festivals near the capital, and who provoke, by their overbearing and interfering, ten quarrels for one that they prevent.

Soon after the benediction, the peasants began to leave Capaccio Vecchio, where there was not a single inhabited house, and to take their roads homeward. They broke up into parties that went off in every possible direction, some descending to the Pæstan plain, some climbing the lofty mountains in the rear of the ruined town, some making their way for Acropoli, on the sea-shore, and others winding round the hills inland, to reach the high country in the beautiful district of the Cilento. As the different groups parted company, they saluted each other with shouts; and then, for the most part, went on their respective ways, singing in merry chorus. We followed the most numerous of all the parties to Capaccio Nuovo, or the New Town, which is situated in a hollow in the mountains, some two or three miles from the old town. As inns were out of the question in such a place, we went direct to the Franciscan monastery. The friars were civil, and willing enough to feed and lodge us, but they had nothing in the shape of a spare bed. The old superior shook his head, and spoke of the poverty of the land; but after an hour's perambulation in the little town, he contrived to borrow a mattress, stuffed with the broad dried leaves of the Indian corn, from one—a couple of pillows from another—a woollen coverlet here—and one large coarse sheet there; and with these materials we made a double bed in one of the cells, in the best manner we could.

We finished the Easter Monday, and passed nearly the whole of the week with the friars, dining at table with them at half-past eleven o'clock in the morning, and supping with them at seven in the evening. We were much better off in the refectory than we were as to our bed-room, for we had plenty of good wholesome food, and pleasant, light wine. Monks, novices, lay-brothers, and all, fared quite sumptuously while we were with them, having minestra verde (cabbage-soup), or maccaroni, spezzato (or kid's flesh), red eggs, and cassatiello, every day; and while this unusual feasting was going on, the friars kept saying,—"by the aid of Saint Francis, we fasted during Lent till the spirit almost went out of us; but now it is Easter time, and we must be joyful."

And these are some of my recollections of the most joyful Easter I ever passed anywhere.

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THE ORANGE-TREE.



[Seville Orange-Tree.]

The citron family of plants comprehends four distinct species:—the citron, the lemon, the orange, and the shaddock; and the orange and lemon have many varieties. Even in the East, where they are native, they are not a little capricious in their growth, the fruit and even the leaves frequently altering, so that it is not easy to say which is a distinct species and which a variety. They continue flowering during nearly all the summer, and the fruit takes two years to come to maturity; so that, for a considerable period of each year, a healthy tree exhibits every stage of the production, from the flower-bud to the ripe fruit, in perfection at the same time. They are all either small trees or shrubs, with brown stems, green twigs and leaves, bearing some resemblance to those of the laurel. We cannot, however, judge of the size of the orange-tree

from the specimens we ordinarily see in England. In parts of Spain there are some old orange-trees forming large timber; in the convent of St. Sabina at Rome, there is an orange-tree thirty-one feet high, which is said to be 600 years old; and at Nice, in 1789, there was an orange-tree which generally bore 5000 or 6000 oranges, and was fifty feet high, with a trunk requiring two men to embrace it. The size depends much upon the age of the plant.

All the citron family are natives of the warmer parts of Asia, though they have been long introduced into the West Indies, the tropical parts of America, the Atlantic Isles, the warmer countries of Europe, and even Britain. The orange is a taller and more beautiful tree than either the citron or the lemon; but like them has prickly branches in its native country. It was originally brought from India. Whether it was originally a Chinese fruit seems doubtful, as it is not mentioned by Marco Polo, who is so circumstantial in describing all the productions of that country. Yet the Portuguese found it there, and John Bell was told by one of the Missionaries that the tree was still standing at Canton, from which the seed was taken by the Missionaries and sent to Portugal. The first distinct mention of the orange is by the Arabs. It is noticed by Avicenna; and Galessio (in whose 'Traité du Citrus,' published at Paris in 1811, the history of this fruit was first carefully traced) states that, when the Arabs penetrated to India, they found the orange tribe there farther in the interior than Alexander had advanced. They brought them from thence by two routes: the sweet ones, now called China oranges, through Persia to Syria, and thence to the shores of Italy and the south of France; and the bitter oranges, called in the commerce of England Seville oranges, by Arabia, Egypt, and the north of Africa to Spain. At the time that the people of Europe first visited the Levant in great numbers, that is, during the crusades for the delivery of Syria from the dominion of the Saracens,—oranges were found to be abundant in that country. Though they were in reality cultivated trees, their number, and the beauty and excellence of their fruit, naturally caused the adventurers (who were not very conversant with natural history, and not a little prone to romance and credulity) to believe and state that these were indigenous to the country, and formed a portion of the glories of the "Holy Land." The fables of the profane writers, and the ambiguity of the description of vegetables in holy writ, helped further to confirm this opinion. As the oranges were of the form of apples, and the colour of gold, it did not require much stretch of the imagination to make them the golden apples of the Garden of the Hesperides.

There is certainly no evidence to shew that the orange was known to the ancients either in Europe or Syria; but there is much to demonstrate that we are indebted for the first knowledge of it to the Arabs, who, with their zeal to propagate the religion of the koran, were also anxious to extend the advantages of agriculture and medicine. The sweet orange which they introduced was not, strictly speaking, that which has since been called the China orange, and which under that name has been introduced into Spain and Portugal, as well as St. Michael's, and other Atlantic isles, and the West Indies; but rather the orange which was known in Italy before Vasco de Gama doubled the Cape of Good Hope. When the Portuguese reached India they found the orange there, and also in China, which was visited for the first time by sea in the early part of the sixteenth century. Although the oranges of St. Michael's in the Azores are now the best that are to be met with in the European market, they are not indigenous productions of that island; but were sent there by the Portuguese, as the same fruit was originally sent to the American continent by the Spaniards. In the middle of a forest, on the banks of the Rio Cedeno, Humboldt found wild orange trees laden with large and sweet fruit. They were probably the remains of some old Indian plantations; for the orange cannot be reckoned among the spontaneous productions of the New World.

Many varieties of the orange family are now cultivated in Portugal, Spain, France, Italy and Greece. In the first two countries they especially abound—in Algarve, and in the fine plains of Andalusia, on the banks of the Guadalquivir. The latter is the place from which the bitter or Seville oranges are chiefly obtained. In Algarve and Andalusia the orange-trees are of great size. Extensive orchards of them have formed the principal revenue of the monks for several centuries; and in the latter province, the craggy mountains of which are covered with gardens, and vineyards, and forests abounding in fruit, the flowers of the orange fill the air with their perfume, and lead the imagination back to those days which the Moorish historians and poets delight in describing, when the land which they conquered was adorned with all the refinements of their taste and intelligence, and the luxuries of the East were naturalized in the most delicious regions of the West. In Cordova, the seat of Moorish grandeur and luxury, there are orange trees still remaining, which are considered to be 600 or 700 years old; the trunks of these old trees have begun to decay, and when they get diseased they are covered with a kind of lichen which is supposed to be peculiar to the orange.

The precise time at which the orange was introduced into England is not known with certainty, but probably it may have taken place not long after its introduction into Portugal, which was in the early part of the sixteenth century. The first oranges, it has been stated, were imported into England by Sir Walter Raleigh; and it is said that Sir Francis Carew, who married the niece of Sir Walter, planted their seeds, and they produced the orange-trees at Beddington, in Surrey, of which Bishop Gibson, in his additions to Camden's 'Britannia,' speaks of as having been there a hundred years previous to 1695. As these trees always produced fruit, they could not have been raised from seeds; but they may have been brought from Portugal, or from Italy, as early as the close of the sixteenth century. The trees at Beddington were planted in the open ground, with a moveable cover to screen them from the inclemency of the winter-months. In the beginning of the eighteenth century they had attained the height of eighteen feet, and the stems were about nine inches in diameter; while the spread of the largest of the number was twelve feet one way and nine the other. There had always been a wall on the north side of them, to screen them from the cold in that quarter; but they were at such a distance from the wall as to have room to spread, with plenty of air and light. In 1738 they were surrounded by a permanent enclosure, like a greenhouse. They were all destroyed by the great frost of the following winter; but whether this was wholly owing to the frost, or partly to the confinement and damp of the permanent enclosure, cannot now be ascertained. At Hampton Court there are many orange-trees, some of which are said to be 300 years old. They are generally moved into the open air about the middle of June, when the perfume of their blossoms is most delicious. Orange and lemon trees have been cultivated in the open air in England. For a hundred years, in a few gardens of the south of Devonshire, they have been seen trained as peach-trees are against walls, and sheltered only with mats of straw during the winter.

The orange, naturally produced in warmer climates than our own, has been rendered our property by commerce in a very remarkable degree. It may be

procured at little more cost than the commonest of our domestic fruits; while it is perhaps the most refreshing and healthy of all the fruits of warm countries. It has thus become a peculiar blessing to us; for while it offers a gratification within the reach of the poorest, it is so superior to other fruits, that it cannot be despised for its cheapness, even by the richest. The duty upon oranges at present amounts to 68,000*l.* per annum, at the rate of 2*s.* 6*d.* for a package not exceeding 5000 cubic inches. Assuming the cubical contents of an orange as ten inches, there are 500 in each package; and thus we see that 272,000 000 of this fruit are annually imported, allowing about a dozen oranges a-year to every individual of the population.

The above is chiefly abridged from the second volume of 'Vegetable Substances,' in the "Library of Entertaining Knowledge."

MINERAL KINGDOM.—Section XXXVIII.

Gold—(*concluded*).

We shall now briefly allude to the sources from which gold appears to have been derived in ancient times, and prior to the discovery of America. That it existed in considerable quantity is evident from the numerous allusions both in sacred and profane history to treasures of gold, and to vessels and ornaments made of it. There are some passages, however, which are obviously fabulous, such as the story related by Diodorus, of Semiramis having erected statues of Jupiter, Juno, and Rhea, of beaten gold, forty feet in height, and of drinking vessels of gold dedicated to Jupiter weighing 1200 talents. But the descriptions of the sumptuous displays of the precious metals in the palaces of ancient kings and princes, even if we suppose them free from exaggeration, when within reasonable bounds of probability, are apt to give an erroneous impression of the riches of ancient when compared with modern times; for all the heaped-up treasures and gorgeous vessels of gold would amount to a small sum, if compared with the mass which is subdivided in minute quantities in the general consumption of articles of commerce and luxury among a large population. Speaking of the quantity of gold in circulation and in use, even among the comparatively small population of Europe in the seventeenth century, Mr. Jacob says, "If we suppose Europe at that period to have contained 100,000,000 inhabitants, and one-tenth of these to have been married or widowed females, with each a gold ring of only a pennyweight of gold, the value of them would amount to 2,000,000*l.* sterling. If we suppose that one-tenth of the inhabitants had a silver watch, and one-hundredth part a gold watch with cases weighing two ounces, the whole would amount to near 20,000,000*l.* sterling. The supposition is made without any assumption of its correctness, and merely to show the prodigious extent and consequent consumption of an article when, from the decline in its value, it descends to the most numerous classes of society." In another place he remarks: —"The introduction of tea, but especially the extension which it gradually received, till it has become the daily fare of almost the whole community, had an influence on the consumption of silver for small spoons. They were scarcely known in the previous reign, but multiplied in the reign of Queen Anne, and have gone on increasing from that time to the present, when they may be counted by millions, perhaps by hundreds of millions."

The chief supply of gold in ancient times was from Asia. Herodotus speaks of people living near the source of the Indus searching for gold, and that they resembled the Bactrians in that respect. Now we know that in modern times gold is found in many parts of Tibet, and that the mines there yield annually about 10,000 ounces. The amount of the precious metals brought by Alexander the Great from the East appears to have been very great. Herodotus speaks of the northern region of Asia producing prodigious quantities of gold, and the researches of modern travellers have shown that mines were worked by nomadic tribes in Siberia from a very remote period. Strabo speaks of gold mines in Armenia, in the province of Hisperatis near Cambale. Nubia and Ethiopia furnished a large share of the gold and silver before the Christian era. There were very productive gold-mines in Thrace, which were worked extensively during the time of Philip of Macedon, and are said by Diodorus to have yielded gold yearly to the amount of 1000 talents. In the reign of Philip the art of refining had arrived at considerable perfection, or the gold found must have been very free from alloy, for his coins are of great purity, and they are even excelled in that respect by those of his son. The gold-mines of Thrace were in operation in the reign of Valens, who died A.D. 378, but they had altogether ceased to be worked in the succeeding century. No gold is now known to be found in any of the countries at present subject to the Turks. There were productive gold-mines in different parts of Spain, according to Pliny. The country around Aquileia, and the whole district of the Noric Alps, which now forms a part of the kingdom of Austria, were formerly rich in gold-mines, and became suddenly so productive as to lower the price one-third throughout all Italy and the adjoining countries. The mines of Hungary were not worked before the Christian era, but these and others in Austria were the chief sources of supply during the middle ages.

Uses of Gold.—From its softness and flexibility gold would be very unfit for coinage in its pure state, and it is therefore mixed with a small proportion of copper, which has the effect of hardening it. An elaborate series of experiments was made by Mr. Hatchett on the alloys of gold with different metals, an account of which is published in the Philosophical Transactions for 1803. He ascertained that the hardest alloy with copper is composed of 11 parts of gold and 1 of copper, and that has been adopted as the standard gold of our coinage. The effect of some other metals in changing the properties of gold is remarkable, for if $\frac{1}{18}$th part of lead be added, the alloy is as brittle as glass. If a quarter of a grain of bismuth be added to an ounce of gold, that is $\frac{1}{1920}$th part, the mixture, although in colour and texture resembling gold, is perfectly brittle. If a like quantity of antimony be added, the mixture is not only brittle, but has hardly any metallic lustre. It becomes, therefore, a matter of great consequence in alloying gold to employ copper which has been previously ascertained to be perfectly pure, for it very usually contains a small admixture of lead and antimony. The hardness imparted by the copper is not such as to destroy that degree of softness and toughness in the mixture which enables it to receive the impression of the dies with perfect exactness. It would not answer to form coins and medals of gold by pouring the melted metal into a mould, for, in passing from the fluid to the solid state, it contracts considerably in bulk, whereas the reverse would be necessary in order to obtain a sharp impression. The quantity of gold coined at the Mint in London, since the commencement of the new gold coinage in 1817 to the 31st December, 1829, amounted in value to 44,221,490*l.*, and it was coined into 16,120 double sovereigns, 40,672,456 sovereigns, and 7,039,588 half-sovereigns. The addition of copper imparts a reddish tinge to the gold, and this is rendered deeper as the quantity of copper is increased. Trinkets and various articles of jewellery and plate are made of gold of very different degrees of purity. What is called *fine*

gold by jewellers is not the pure metal, for that would be unsuitable on account of its softness, but an alloy of gold, silver, and copper, by which a colour is obtained nearly the same as that of pure gold. The gold used by the first-rate London jewellers has about two-thirds of its weight of pure gold. The Dutch ducat, alloyed with silver only, is of a pale-yellow colour, and may be bent by the fingers. For gold leaf, the purest metal must be selected: to make this, a bar weighing about two ounces is forged on an anvil, and passed between steel rollers until it forms a long riband as thin as paper. This is cut into 150 pieces, and each of these pieces is hammered on an anvil till it is about an inch square. Several of these very thin plates are laid between small sheets of vellum, and placed in a parchment case, and then beaten with a very heavy hammer until the gold plates are extended to about four inches square. Each of these is cut into four parts, and placed between layers of prepared ox-gut, and a packet of these is beaten as before until they extend to about four inches square. Another similar subdivision and beating takes place, and thus at last the two ounces of gold produce 2400 leaves, and each grain has been opened out to nearly 31 square inches of surface, having a thickness of about $\frac{1}{130,000}$th of an inch. It is capable, however, of being beaten much thinner, as we have already noticed. Mr. Jacob estimates the annual consumption of all the gold beaten in the United Kingdom at about 17,500 ounces of fine gold.

The only employment of gold in the arts, otherwise than in its metallic state, is in a preparation which is used for painting on china, to give a pink or red colour.

CATHEDRAL OF FLORENCE.

In extent and magnificence the Duomo or Cathedral of Florence ranks among the first ecclesiastical edifices of Europe. It also derives a great interest from its venerable antiquity, and from its being generally considered as the beginning of a new era in the history of architecture. Tuscan writers, who have been rather too lavish of their praise, have said a great deal about the bold abandonment of the Gothic style, and the happy adaptation of the ancient Roman style of architecture in this building, which shows an admixture of several styles, though it certainly has more of the ancient Roman than any work that preceded it in the middle ages. Its fine double cupola was the first raised in Europe, and in other respects the Duomo of Florence served as a model to succeeding architects. This cathedral was begun in 1296. The first architect employed upon it was Arnolfo di Lapo, a scholar of Cimabue the old painter. In 154 years, and under successive artists, it was nearly finished. "But," says an old Florentine author, "the grand cupola was the parturition of the marvellous genius of Ser Filippo Brunellesco, an architect who in his days had no equal." It is related of Michael Angelo Buonarotti, that he used to gaze at this proud dome with rapture, and say it never could be surpassed by mortal man. He afterwards surpassed it himself in his dome of St. Peter's, at Rome; but spite of his magnificent boast, the cupola of Florence was a prototype, and had more to do with St. Peter's than the dome of the Pantheon, which Buonarotti said he would suspend in the air. Brunellesco, the author of the cupola, gave the finishing hand to the cathedral. In size, materials, and boldness of conception, it is only inferior among Italian churches to St. Peter's. The walls are cased with black and white marble, and both without and within they are adorned with numerous statues, many of which are beautiful as works of art, or interesting as early specimens of Italian sculpture. As in the Cathedral of Milan, where there is a complete army of statues, too many of them are placed in positions where they can scarcely be seen.

Like other old buildings, the Cathedral of Florence has been subjected to the caprices of power and the bad taste of despotism. The façade was almost half incrusted with beautiful marble, and additionally adorned with many statues and bassi-relievi, executed from designs by the venerable Giotto, one of the fathers of painting—one of the immortal Italians who dug up the fine arts from the grave in which they had been buried for centuries. In 1586, without any visible motive, a grand duke of the house of Medici demolished this antique front, and began another on a totally different design. This new façade was very slowly executed, and never finished; and in 1688 another grand duke, whose taste it did not please, knocked it all down, just as his predecessor had demolished the venerable works of Giotto. For several years the front of the church presented nothing but bare unsightly walls; and then, on the occasion of some ducal marriage, the reigning Medici had it shabbily painted in fresco, and in that condition it remained for upwards of a century. The spirited republicans, the merchants and manufacturers of old Florence, with whose money the vast cathedral was originally built, could afford to lavish costly statues and the most precious marbles; but the population, enterprize, and wealth of the country had suffered a sad blight under the despotic government which succeeded the Commonwealth, and the grand dukes could only provide a little plaster and paint for a building which was the boast of the city, as it was the glory of the old republicans. The Medici—that family of merchant princes whose virtues and abilities went out like lamps lacking oil, almost immediately after their assumption of absolute power—kept their marbles, their "porphyry, jasper, agate, and all hues" to heap upon their own inglorious tomb, in the church of S. Lorenzo; and even that monument of their vanity and tawdry taste they never finished.

Seven great doors, three in front and two on either side, give admittance to the interior of the Florence Cathedral. These doors are richly ornamented. Giovanni di Pisa and Ghirlandaio both employed their genius upon them. The floor of the church is paved with rich variegated marbles, disposed in a beautiful manner. Italian writers, who deserve our love by the fond, minute attention they have paid to such matters, record that the pavement of the great central aisle was laid down by Francesco di San Gallo; that round the choir by the versatile and great Michael Angelo; and the rest by Giuliano di Baccio d'Agnolo. The windows are smaller and fewer than usual, and the glass being painted with the deep rich tints common in ancient glass-staining, admits but a subdued light. As Forsyth observes, "Here is just that 'dim religious light' which pleases poetical and devout minds." This light almost becomes "a darkness visible" in the choir, for the cupola or dome under which it stands is closed at top, and admits no flood of sunshine like the dome of St. Peter's. The choir is in itself a blemish. It is of an octagonal form, to correspond with the shape of the cupola, which is not circular but octagonal, or eight-sided. It is enclosed by a colonnade which is fine, considered apart and by itself, but its Ionic elevation is at variance, and jars with the rest of the building. Some curious bassi-relievi enrich the choir, and high overhead the interior of the cupola is covered with fresco paintings—the work of Federico Zuccheri and Giorgio Vasari.

The solemn old church is rich in associations and historical recollections. Here are the tombs of Giotto the painter, Brunellesco the architect, and Marsillius Ficinus, the reviver of the Platonic philosophy, and



[Florence Cathedral.]

the friend and instructor of Lorenzo the Magnificent. Here, on the 26th day of April, 1478, when high mass was performing, and just as the priest held up the host, the blood of Giuliano de Medici was shed by the Pazzi; and his brother Lorenzo, clinging to the horns of the altar, and afterwards flying into the sacristy, escaped with difficulty from those determined conspirators, who would have restored liberty to their country, but who set about it in a wrong way, and mostly from violent and personal motives, and who, moreover, leagued themselves with the King of Naples, the greatest tyrant in Italy, and with other despots who hated liberty even more than they hated the Medici. Here, some years before, when Constantinople was trembling at the approach of the Turks, the Greek emperor, half a fugitive, and wholly a mean supplicant

and beggar, sat side by side with the Pope, consenting to renounce the schisms and heresies of the Greek Church; and engaging (without consulting them) to bring all his people into the bosom of the church of Rome, on conditions agreed upon, that the Pope should procure him arms, treasures, and the assistance of the Catholic princes of Europe. Here the German emperor, Frederic III., forgetting that the holy spirit of the place was one of peace and good-will to all men, knighted some scores of the bravest or fiercest of his cut-throat soldiery. A portrait recalls the memory of the greatest of all Florentines, and shows the tardy repentance of his ungrateful countrymen. "An ancient picture by Orcagna, in which is painted the divine poet Dante, is placed here in consequence of an express decree of the Florentine Republic; and this is the only public memorial we possess of that great master of Tuscan poetry." Such are the melancholy words of an old Florentine writer, who, like all his countrymen, deplored that the bard should have died in poverty and exile, and have left his strictly-guarded ashes in a foreign state. Next to this picture of Dante is the portrait of an English soldier of fortune,—the renowned and infamous condottiero Sir John Hawkwood, who betrayed and sold the Pisans, in whose service he was, to their bitter enemies the Florentines.

In another part of the church there is a curious old portrait of Giotto. Brunellesco has the honour of a bust, as well as that of a Latin epitaph, on his tomb. This epitaph, which was written by Carlo Marzuppini of Arezzo, "Poet and Secretary of the Republic," is remarkable, as it includes the original idea of our inscription in St. Paul's to the memory of Sir Christopher Wren. The Florentine inscription tells the reader to look at the cupola to form a notion of Brunellesco's excellence in architecture. Our inscription to Wren, which is better turned, says, "Reader! if you would behold his monument, look around you."

In various parts of the cathedral, there are statues by Baccio Bandanelli, Savino Rovezzano, and other early artists. The chapels which shoot off from the side aisles are rich in pictures, sculpture, and relics. The campanile, or belfry, which is the square tower that the reader will see in our engraving, surmounted with a flag, is close to, but wholly detached from, the body of the cathedral. This was a common method in old Italian churches, where the bells were hung, not in the temple, but in a separate tower near to it. Instances of this occur at the celebrated cathedral of Pisa, at the church of Santa Chiara in Naples, and in many other places. The campanile of Florence is light and airy. It is coated on the outside with variegated marble, and studded here and there with statues. Giotto the painter drew the designs on which it was erected. And here it is worthy of remark, that nearly every one of these early artists was not a mere painter, or sculptor, or architect, but united in himself the knowledge and practice of all the three arts, besides being skilled in civil engineering, and, in most cases, a poet, or an accomplished musician, to boot. They were a wonderful set of men, who suddenly sprung up and flourished, and filled their native cities with beauty, in the midst of a most turbulent liberty, when wars and factions shook the peninsula from one end to the other, and every citizen or burgess of the free states of Tuscany and Lombardy was of necessity a soldier. The impulse they gave lasted some years after the decline of freedom; but Italy never saw such men in the tranquillity that arose out of confirmed despotism.

Opposite to the principal entrance of the cathedral there stands another detached building, which the reader will see in our view. This is the baptistery, which it was also usual not to include in the church, but to erect apart. At Pisa, as here, and in many other places, the baptistery is a separate edifice, rising near the cathedral. This baptistery was not confined to one parish; all the children born in the city and suburbs used to be christened in it; and as the population in the thirteenth, fourteenth, and fifteenth centuries was immense, the baptismal fonts must have presented very busy scenes. A notion may be formed of the extent of the population from a fact mentioned by Machiavelli. He says that the bells of the campanile sounding the tocsin would, in a few hours, bring together 135,000 well-armed men, and all these from Florence alone with the adjoining valley of the Arno.

The baptistery is an octagonal building with a low dome supported by many granite columns. Its interior walls are lined and the pavement is inlaid with marble. The concave of the dome is covered with mosaic, the work of Andrea Tafi, one of Cimabue's pupils. But the glory and marvel of the baptistery lie in its three great bronze portals, which are wrought into bassi-relievi of exquisite beauty. The most ancient of the three was by Andrea Pisano, and bears the date of 1330. The other two, which are still more excellent in style, and so beautiful that Michael Angelo was accustomed to say they were worthy of being the gates of Paradise, were the work of Lorenzo Ghiberti. The figures and groups of the relievi refer to events in the Life of Saint John the Baptist. By the sides of the principal entrance there are two porphyry columns given to the Republic by the Pisans in 1117, in gratitude for important services rendered by the then friendly Florentines, who had kept watch and ward in Pisa whilst its warlike citizens went to the conquest of Majorca and Minorca. Close at hand, as also in some other parts of the city, are some very different memorials. They are links of a massy iron chain, with which, when entire, the Pisans used to shut up and defend their celebrated port. In 1362 the Florentines took the Porto Pisano, carried away the chain, and hung up fragments of it in their own town as trophies of victory.

The column surmounted by a cross which stands in front of the baptistery is said to have been erected as early as the year 408, in commemoration of a miracle performed on the spot by Saint Zenobi, at that time bishop of Florence.

The procession seen crossing the piazza or square of the cathedral in our view is one that annually takes place on the day of Corpus Domini,—the Fête Dieu of the French.

SIGNIFICATION OF SOME OBSCURE WORDS.

In the 179th Number of the 'Penny Magazine' we furnished some of the statements given by Dr. Samuel Pegge in his 'Anecdotes of the English Language,' for the purpose of vindicating or excusing the peculiarities of the London dialect. The work quoted is not strictly limited to this object, and we therefore recur to its pages for the materials of the following account of some common low words, the origin and signification of which may not be understood or even suspected by many of our readers.

We may take the word "*Cockney*" itself, in the first instance. Bailey and Johnson, in their respective 'Dictionaries,' give it as a word the origin of which is much controverted. Glossarists have written much about it with very indifferent success. Dr. Meric Casaubon very ingeniously makes it out that the word with its article, "a cockney," complete the Greek word *Oicogenes*, "born and bred at home." In this instance, it is easier to admit the accuracy of the meaning, and the approximation of the sound, than the probability of the etymon. Dr. Hickes deduces it rom the old French word *Cokayne*, now *Coquin*; and

Cotgrave gives "Cockney" as one of the English meanings of this French word. Dr. Pegge himself acknowledges it to be one of the least definable of words, but nevertheless tries his hand at it. He says that the French have an old appropriated verb—*Coqueliner un enfant*, "to fondle or pamper a child." The participle passive of this verb will be *Coqueliné*, which by no great violence may be reduced in the mouth to Coquené; for in pronunciation the last syllable but one (*li*) will easily melt in the mouth, and then accord in sound with our word "cockney." If none of these etymologies will do, we have the alternative of accepting the vulgar opinion which describes it as a compound of the words "cock" and "neigh;" and accounts for the origin of the combination by informing us that,—Once upon a time a true-born and true-bred Londoner went into the country, and on first hearing a horse neigh, cried out—"How the horse laughs!" but being told that the noise made by the horse was called *neighing*, he stood corrected. In the morning when the cock crew, the citizen immediately exclaimed, with confident conviction, that the *cock neighed!* We need not add that this is merely a forced conceit, as, indeed, more serious derivations often are.

Writers agree better about the meaning than they do about the etymology of the word. It is intended by the word Cockney to express a person brought up in the city of London, and ignorant of the mannersand ideas of all the rest of the world. In this sense, the word can hardly in the present day be applicable to the natives of London, and that it was more so at a former period, as it probably was, is partly accounted for by the state of the roads and the want of public conveyances, which precluded the inhabitants from those little excursions which, at proper seasons, they are now enabled to obtain. In Chaucer the word does not seem to be applied particularly to the inhabitants of London, but to mean generally a silly fellow, destitute of wit or courage:—"I shall be held a daffe (*i. e.*, a fool) or a Cockney." The word, however, in its restricted signification, is older than Chaucer. Thus, Hugh Bigod, Earl of Norfolk, in the reign of King Stephen, had a castle which was considered impregnable; and when speaking of the wars between the King and the Empress, whose partisan he evidently was, he said—

> "Were I in my castle of Bungay,
> Upon the river Wavenay,
> I would not value the King of Cockney."

He is here presumed to mean by the term Cockney the whole city of London in general; but in our opinion the allusion (from some circumstance understood at the time better than now), is to King Stephen, with the intention of comparing him to the mock functionary, called the "King of Cockneys," who was elected to preside over the festivities of Christmas, and was treated by his own subjects with very much respect for the time; for although this monarch is not mentioned until a much later period, it is in such terms as to imply that his office was not of recent date. The Earl of Dorset uses the term "cockney" to denote a native of the metropolis. It occurs also in Shakspeare: in one passage he seems to contrast the idea of a Cockney's cowardice with the swaggering of a braggart. This is in 'Twelfth Night,' where the clown says, "I am afraid this great lubber, the world, will prove a Cockney." In 'King Lear' he paints the character in more exact conformity with present usage, which does not make much distinction between the Cockney and the Gothamite—the latter being for the country what the former is for the town. The king, in the agony of his despair exclaims,—

> "Oh me, my heart, my rising heart—but down!"

to which the fool replies,

> "Cry to it, Nuncle, as the Cockney did to the eels, when she put them into the pasty alive: she rapped them o' th' coxcombs with a stick, and cried, 'Down, wantons, down!' It was her brother that, in pure kindness to his horse, buttered his hay."

The established criterion for the Cockneys seems to be that of having been born within the sound of Bow bells; that being taken, apparently, as the most central part of the ancient city of London. Thus in the comedy of "Eastward Hoe!" published in 1605, the fantastic and aspiring daughter of Touchstone, the goldsmith of Cheapside, says, in scorn of her birth, family, and cockneyhood, that she was accustomed "to stop her ears at the sound of Bow bell."

The anecdote related near the commencement of this article, is considered by those who believe it to have originated the expression *Horse-laugh*. Some etymologists consider it merely a corruption of *hoarse* laugh: but Pegge very justly observes that what is called a horse-laugh involves no idea of hoarseness, but rather of loudness, rude vehemence, or vulgarity of manner. It seems, in fact, to be no more than an expression of augmentation, and is not the only instance in our language in which the word "horse" is used as a prefix to denote things large and coarse. Thus in the common vegetable nomenclature we have "horse-radish," and "horse-chestnut;" and in the animal kingdom "horse-emmet," "horse-crab," &c.

To illustrate his position that the most unobserved and unintelligible words in common use are not destitute of fundamental meanings, Mr. Pegge selects two words "from the humblest line of humble language." These are the syllables *Ge* and *Wo*, which waggoners and carmen are in the habit of addressing to their horses; and which, however devoid of meaning to ourselves, were well known to our ancestors, and in actual use among them. Horses are made to move or stop mechanically at the sound of these words, being drilled into the observance of them by their continual recurrence under certain circumstances, and by the fear of punishment.

Now, the word *Ge*, with a very trifling modification, seems to be the imperative *Geh* of the German verb *Gehen*—to go. In Yorkshire, Lancashire, and other northern parts of the kingdom, the term *Ge* is still retained as a conversational word. Thus, if things do not suit or fit each other, or where neighbours do not *accord*, the expression is—"They do not *ge* well together." Bailey and Dr. Johnson allow the word a place in their 'Dictionaries;' but content themselves with observing that *Ge* (so they write it) is a term among waggoners to make their horses go faster, without recurring to the radical word.

"*Wo*" was anciently applied to knights and combatants in armour. It is no other than a broad pronunciation of the Danish word *Ho!* commanding cessation or desistance. At tilts and tournaments, when the king, or the president of the combat, gave the signal for discontinuance by throwing down his warder (or baton), the heralds cried out to the combatants *Ho!*—that is, "Stop." The French have enlarged the term to a dissyllable by the assistance of their favourite adjunct *la*, and used the compound word *Hola* (or "stop there") in combats, and which we have adopted in common language when we call to a person to stop. The word still exists in nautical language in nearly an uncorrupt state. Thus, when one ship hails another, the words are, "What ship? Hoy!" that is, "*Stop*, and tell the name of your ship."

We shall conclude this article with a few notes on the names of some trades, which to us seem wanting in significance.

Stationer.—The Company of Stationers existed long before the invention of printing. A stationer, therefore, was a dealer who kept a shop or a stall, as dis-

tinguished from an itinerant vender, whether of books or broomsticks. Pegge seems to say that the term stationer became appropriated to dealers in books about the year 1622, at least the first authority quoted for this appropriated use of the word is of that date.

Linen-draper.—A *draper* is a dealer in *woollen* cloth, from the French *drap* and *drapier.* "Linen-draper" is therefore as incongruous as "ale-draper" in Ireland; for the *drap*, whence the *drapier*, must be confined to woollen-cloth. Hence our drab-cloth, pure and undyed cloth, called a drab-colour in the trade. "Ale-draper" perhaps originated in a joke, or may be a corruption of "ale-drawer."

Cooper.—Ray says that "coop" was a general term for a vessel to enclose any thing,—as, a hen-coop. He probably meant that that was the case when the vessels were made of wood. A maker of such vessels was called a *cooper.*

Cordwainer, for shoemaker, is supposed to be derived from Cordovan leather, of which the finest shoes were made. The operation probably obtained in France the name of *cordovanier*, easily corrupted into our "cordwainer."

Sowter,—the Scotch word for shoemaker; is used in the same sense in the 'Pindar of Wakefield;' and Chaucer uses it for a cobbler.

Sexton is corrupted from "Sacristan."

Milliner.—Pegge asks if this word is from Milan. A Milan cap is mentioned in 'Don Quixote.'

Tinker,—evidently formed from the sounds produced by the labour. The Scotch write it "tinklar."

Pedlar.—Johnson believed this to be an abbreviation of "petty-dealer;" but some incline to look for the origin of the word in the Teutonic *bedeler*, or in the Danish *betelere*, which both signify a beggar.

In this part of his subject Mr. Pegge remarks that in old towns most of the streets, except the principal, which is usually styled the High Street, and those denominated from churches, have their names from the description of merchandise which is, or was formerly, exposed for sale in them. Many instances of this will occur to those acquainted with such towns.

Hot Springs at St. Michael's, one of the Azores.—Volcanos are supposed to exist internally, of which, indeed, the fountains in the Valley of Farnan and other parts of the island are evident symptoms. This valley is about twenty-five miles north and east of Porto del Gardo, and has on its south-east side a small village called Carcuis, or Farnan. On a small elevation about a quarter of a mile square are a number of hillocks, on which the action of fire is every where evident. The minerals on the spot are pyrites, lava, pumice, marble, and clay of different colours, ochre, iron-ore, and calcareous earth, mixed with alum and sulphur. There are also a number of boiling fountains, and many cold springs. The hot springs form several streams, and in their course they smoke and emit sulphureous steams; in a calm day the vapour is seen rising to a great height. The largest of these boiling fountains, called the Caldeira, is nearly thirty feet in diameter, but its depth is unknown. Its water is scalding hot, and in a constant state of ebullition, emitting a vapour highly sulphureous, and smelling like burnt gunpowder; its taste communicates an acescent pungency, and its sediment is a clayey substance of a light blue colour. At a few yards' distance, behind a ridge of lava, and at the bottom of a projecting rock, another boiling fountain is called the Forga, or Forge; this is ranked as the second fountain: its surface is seldom visible, from the dense sulphureous vapour; it boils with great violence, and sends forth a great noise, throwing up quantities of a fine glutinous blue clay mixed with vapour, which is scattered about, and observed to encrust the rock and other neighbouring objects. These are the principal fountains, but there are several others; and vapour is seen issuing out of the crevices of rocks in many places. By applying the ear to some of the fissures, the noise of boiling water is distinctly heard; and from others the water is at intervals squirted out, scalding those who may unwarily approach too near. The temperature of these fountains is not uniform: some are as high as boiling heat, others more moderate, and some very cold, the appearance of the water in some is limpid and transparent, in others turbid, of a white or reddish hue, all generally depositing a red or blue clayey substance. Crystals of alum and sulphur are here found in abundance, some of them beautiful and curious; and when the vapour issues and exudes from the chinks and fissures of the rock, some of the crystals are from one to two inches long. A small river runs through this valley, and on its edge in several places there are hot springs, with at times a perceptible ebullition in the middle of the stream from these springs. This river deposits an ochrey sediment on the stones and pebbles of its bed; in some places the sediment is of a green colour, not unlike martial vitriol; and the bushes on the banks are encrusted over with sulphur and alum. The taste of these waters varies. In some it is that of a strong impregnation of the vitriolic acid, in others of the carbonic; in others the taste is aluminous or ferruginous, while others again are perfectly insipid. The country-people in cooking save fuel by those fountains. They place their culinary utensils over the hot springs, or upon some of the steaming crevices; and their cattle by instinct or experience approach these places to clear themselves of vermin, by standing in the sulphureous steam."—*From the Journal of the Geographical Society, Vol. IV., Part II.*

Advantages of cultivating Intellectual Pleasures.—Man, in his lowest state, has no pleasures but those of sense, and no wants but those of appetite; afterwards, when society is divided into different ranks, and some are appointed to labour for the support of others, those whom their superiority sets free from labour begin to look for intellectual entertainments. Thus, while the shepherds were attending their flocks their masters made the first astronomical observations: so music is said to have had its origin from a man at leisure listening to the strokes of a hammer. As the senses in the lowest state of nature are necessary to direct us to our support, when that support is once secure there is danger in following them farther: to him who has no rule of action but the gratification of the senses plenty is always dangerous; it is therefore necessary to the happiness of individuals, and still more necessary to the security of society, that the mind should be elevated to the idea of general beauty, and the contemplation of general truth: by this pursuit the mind is always carried forward in search of something more excellent than it finds, and obtains its proper superiority over the common senses of life by learning to feel itself capable of higher aims and nobler enjoyments. In this gradual exaltation of human nature every art contributes its contingent towards the general supply of mental pleasure. Whatever abstracts the thoughts from sensual gratifications—whatever teaches us to look for happiness within ourselves—must advance in some measure the dignity of our nature. Perhaps there is no higher proof of the excellency of man than this,—that, to a mind properly cultivated, whatever is bounded is little. The mind is continually labouring to advance, step by step, through successive gradations of excellence towards perfection, which is dimly seen at a great though not hopeless distance, and which we must always follow because we never can attain. but the pursuit rewards itself; one truth teaches another, and our store is always increasing though nature can never be exhausted.—*Sir Joshua Reynolds's Discourses.*

EXTEND your benevolence over all nature. love whatever partakes with you of her most universal gift—existence.—*Wieland.*

. The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

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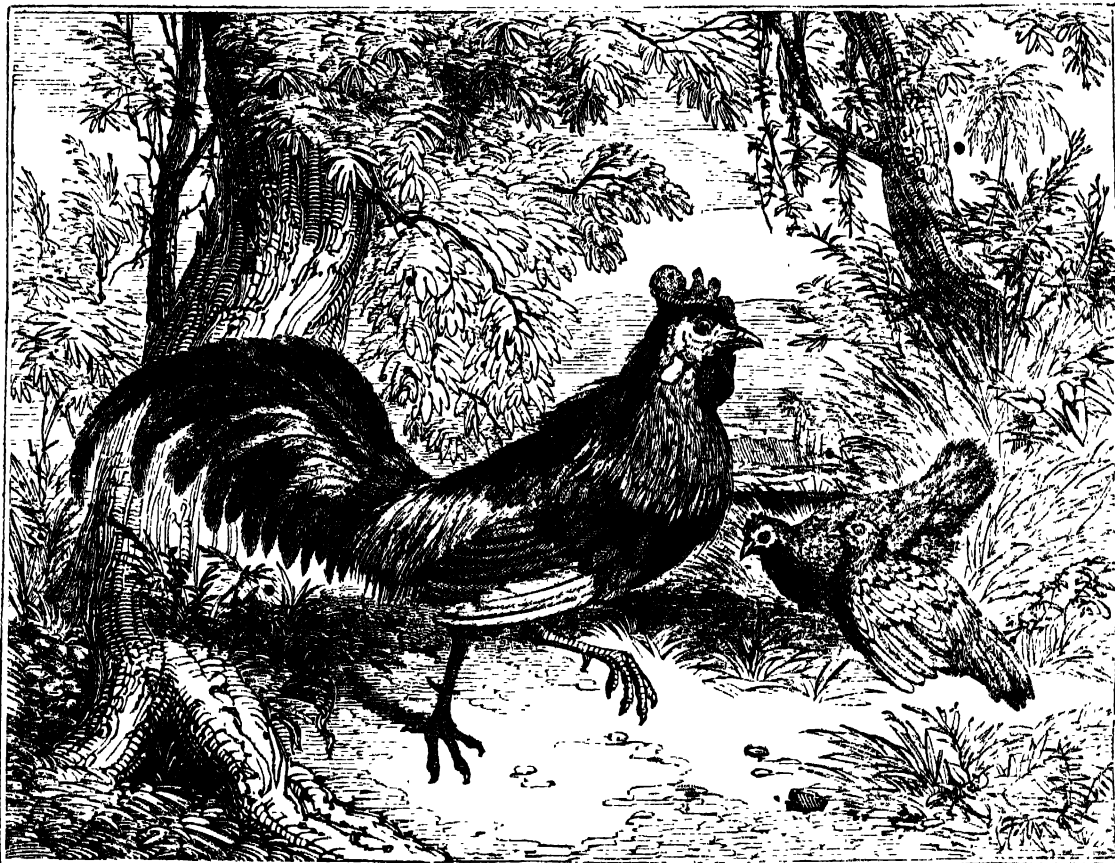
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THE JUNGLE COCK.



[Jungle Fowl.]

THE bird known by this name among the English in India, is the "Wild Cock" of Sonnerat, who was the first to describe it in his 'Voyage aux Indes Orientales.' This naturalist maintained with considerable zeal that this bird formed the stock whence most of our races of domestic fowl have proceeded. He concurred in the opinion of Buffon, that most of our varieties of domestic fowl have proceeded from a single type, and that the differences which we perceive among them have resulted from accidents of climate, domestication, and crossings of varieties. Sonnerat, who did not or would not know of any other species of wild cock than this—for he speaks slightingly of the authority of Dampier, who mentions that he saw wild cocks in the Indian Archipelago—naturally enough concluded that in this jungle-fowl he had found the primitive stock. Subsequent inquiries have, however, confirmed the statements of Dampier, not only as to the existence of species of wild fowl in the Indian Archipelago; but it is also admitted that the *Bankiva* species in Java, and the *Jago* species in Sumatra, more nearly approximate to our common fowl than that now under consideration, and to which Sonnerat's statements refer. Upon the whole, it seems that our varieties of domestic fowl proceed from mixtures of original species. Practical observers arrive at much the same conclusions on this point with scientific naturalists. It is thus, for instance, considered in India that our game cock originated from a mixture of the jungle cock with wild species in Malaya and Chittagong. Altogether, however, it must be admitted that, on this disputed point, very little is actually known; and the domestication of the bird ascends to such remote antiquity, that it seems hopeless to determine the era, and still more hopeless to ascertain the original species with precision. It is proper to add that the jungle fowl, which we now proceed to describe, are quite distinct in India from the domestic races reared by the natives, which do not in any respect differ from the domesticated varieties in all parts of the world.

The jungle cock is about one-third less in bulk than our common village cock. Its length from the point of the bill to the extremity of the lowered and extended tail, is about two feet four inches; and its height from the level of the feet to the top of the head, without including the crest, is fourteen inches and a half. The head is furnished with an indented comb, and the wattles resemble those of the domestic cock, but the naked space around the eyes and on the throat is larger than in that bird. The feathers of the head and neck grow longer as they approach the body; and in their form and substance are different from those which cover the same parts in other cocks, whether wild or domestic. The quill is thick and flattened, forming a white stripe; the whole length of the feather, as far as the extremity, where it ends in a dilated cartilaginous

substance, is of a rounded form, thin, highly polished, and white. The feathers of the back, and those of the tail coverts, are long and narrow, and are of a dusky brown colour, varied with spots of a brighter hue, the whole having a white stripe down their shafts. The breast, the belly, the sides, the thighs, and the abdomen are dusky, tinged with green. The greater quill feathers are dull black, and the middle and secondaries are black, with green reflections. The lesser and middle wing-coverts have the shafts of their feathers flattened, and their tips furnished with a thick and solid cartilagiuous plate, of the same general appearance with those on the neck, but of a deep red colour. The colour of the tail-coverts is deep violet; they are lengthened out and arched over the two vertical planes of the tail, which is composed of fourteen feathers, separated into two portions inclined towards each other, and forming an acute angle. The two middle feathers are longer than the others, and form an arc, the convexity of which is turned from the body of the bird. The feathers of the tail are of a black hue, with green reflections. The feet are of a grey colour; the beak horn-coloured; the fleshy appendices of the head are red, more or less deep.

The female of this species is much less than the male, and has scarcely any comb or wattles. The throat is covered with feathers, and this forms a remarkable distinction from the domestic hen, which has that part nearly naked. The circumference around the eye is naked and reddish. The whole of the plumage of the lower parts of the body resembles that of the male, except that the colours are less brilliant. The feathers of the neck are but slightly lengthened, and, as well as those of the wings, are destitute of the singular cartilaginous tips with which those of the male are furnished. The whole of the upper part of the body is grey, more or less dusky, with the shaft of each feather white. It deserves to be remarked, that in this, as well as in the other Indian wild species, the females do not differ among themselves in the colour of their plumage, like our domestic hens. The females also of those primitive species resemble each other individually, which, as is well known, is by no means the case with our domestic hens, the differences between the individuals of which sometimes extend to characteristic attributes, such as the absence of crest, of gills, great difference of size, &c. This is a strong fact against the opinion of Buffon, who considered that a white plumage must be the attribute of the primitive race, and imagined that hens, originally white, became varied from white to black, assuming all the intermediate colours in succession. But our acquaintance with wild species which were unknown in Buffon's time enables us to conceive it more probable that the primitive hens are brown, red, or grey indifferently, and that white and black colours are among the consequences of domestication, for all the wild hens which have hitherto been observed have the intermediate colours.

The cry of the jungle fowl is in some measure different from that of the domestic species; but there is much resemblance in their habits and dispositions. The following lively statement on this subject is from 'Excursions in India,' by Captain Thomas Skinner, published in 1832.

"In some parts of the forest we saw several jungle fowl: they have exactly the same habits as the domestic poultry. The cock struts at the head of his hens, and keeps a strict watch over their safety. Whenever they were disturbed by our attempts upon them, he flew to the highest branch of some tree beyond our reach, and crowed with all his might, while his dames ran into holes and corners to escape our attacks: they are so cunning, that we found it impossible to get within shot of them with all the caution we could use. While intent upon capturing at least one, as we were creeping after them upon our breasts, lying occasionally like riflemen under cover of the unevenness of the ground to catch them *en passant*, we came suddenly upon an ambuscade that very soon put an end to our sport.

"We were about midway up the face of a hill that was thickly covered by trees, and much clogged by shrubs and creepers that wound in all directions. On reaching the foot of the enemy's position, still advancing upon our breasts, and bending a keen eye upon the birds strutting before us, up rose, with a growl that denoted an offended spirit (for we had literally touched his tail), a large black bear; and turning round, looked us in the face with the most undisguised astonishment. It was the most unsought, as well as most unpromising introduction I had ever met with. There was no time for parley, and getting upon our legs, we at once stood upon the defensive. This sudden metamorphosis completed his surprise, and, yelling louder than before, he set off as fast as he could shuffle from the extraordinary animals that had so unaccountably sprung up before him. We determined that discretion was the better part of valour, and began to retrace our steps, leaving the jungle fowl to benefit by the interruption."

The following is the process which the Sheecarries—or natives of low-caste in India, who gain a livelihood by catching birds and animals—employ for the purpose of taking the jungle fowl:—"Two or three of these men go for this purpose together, and proceed in this manner. A line of thirty or forty yards long is fastened to the ground with wooden pegs at each extremity, and is then elevated by props to the height of about eighteen inches. To this prop nooses of horse-hair are fastened at distances of about two feet from each other, and when the birds attempt to pass under the line, they are caught in the nooses by their necks. Sometimes a similar line is fastened to the ground, and left lying there with all the nooses spread, and as the birds pass over them they are caught by the legs. These lines are never spread where there is much jungle. When the line or lines are ready, the men go off to a considerable distance, and beat the bushes in a direction towards them*."

ENGLISH TRAVELLING IN THE SEVENTEENTH CENTURY.

In following up the subject which Hogarth's picture gave us occasion to commence in a recent Number, we now purpose to furnish our readers with a somewhat detailed account of the manner in which our ancestors travelled in the seventeenth century, as well before as after the introduction of stage-coaches. Two works, respectively written at the commencement and latter end of that century, furnish materials no less curious than adequate for this purpose. The first is 'Fyne Moryson's Itinerary; or, Ten Years' Travels throughout Great Britain and other parts of Europe;' published in 1617. The other is a pamphlet, published in 1673, under the title of 'The Grand Concern of England Explained,' which has been reprinted in the 8th volume of the 'Harleian Miscellany.' The two works are of very different character, as the reader will soon perceive. The following is an abridgment of Moryson's account of the modes of travelling in this country which prevailed in his time.

In England, towards the south and in the west parts, and from London to Berwick, upon the confines of Scotland, post-horses are established at every ten miles, or thereabout, on which travellers ride a false gallop at the rate of ten miles an hour sometimes, but that makes their

* Johnson's 'Sketches of Field Sports as followed by the Natives of India.'

hire the greater. With a commission from the chief post-master, or chief lords of the council (given either on public business or under the pretence of it), a passenger pays twopence-halfpenny a mile for his horse, and the same for his guide's horse; but if several persons travel in company, one guide will do for the whole. Other persons, who have no such commission, must pay threepence a mile. This extraordinary charge for horse-hire is well recompensed by the greater speed of the journey, by which the increased expenses of inns in slow travelling are avoided. All the difficulty is in bearing the great fatigue. The traveller is at no expense for the food of these horses; but, at the end of the ten miles, the boy who takes them back expects a few pence in the way of gift. For the most part, Englishmen, especially in long journeys, ride their own horses. But if any person wishes to hire a horse at London he pays two shillings the first day, and twelve, or, perhaps, eighteenpence a-day afterwards, till the horse is brought back to the owner. In other parts of England, a man may hire a horse for twelvepence a-day, finding him meat; and if the journey be long, he may hire him at a convenient rate for a month or two. Likewise, carriers let horses from city to city, bargaining that the passengers must put up at their inn, that they may look to the feeding of their horses. They will thus lend a horse for a five or six days' journey, and find the animal meat themselves, for about twenty shillings. Lastly, these carriers have long covered waggons in which they carry passengers from city to city: but this kind of journeying is very tedious, for they must take waggon very early, and come very late to their inns; so that none but women and people of inferior condition travel in this sort. Coaches are not to be hired any where but at London; and although England is, for the most part, plain, or consisting of little pleasant hills, yet the ways far from London are so dirty, that hired coachmen do not ordinarily take any long journeys. For a day's journey, a coach with two horses is let for about ten shillings a-day, or some fifteen shillings a-day for three horses, the coachman finding the horses' meat: if the journey be short, about eight shillings will suffice, but then the passengers pay for the meat of the horse. One horse's meat will cost twelvepence, or eighteenpence for one night for hay, oats, and straw; but in summer they are put to grass at threepence each, although those who ride long journeys keep them in the stable on hard meat, as in winter, or else give them a feed of oats when they come from grass in the morning.

In the inns, men of inferior condition eat at the host's table, and pay about sixpence a-meal; but gentlemen have their chambers and eat alone, unless they have friends or acquaintance in company. In this case their reckoning commonly amounts to about two shillings for each; but one who eats alone in his chamber, with two servants attending, will generally have to pay five or six shillings for supper or breakfast. But in the northern parts, towards Scotland, gentlemen do not keep to their chambers, but eat at an ordinary table together, where they have plenty of good meat, and especially of choice kinds of fish, and each man pays no more than sixpence, and sometimes only fourpence a meal.

We now turn to our other authority who, under the name of "A Lover of his Country," published the book we have already mentioned, in which he enumerates a number of public grievances which parliament ought to remove. Among the principal of these is the nuisance of stage-coaches, which he declares to be "one of the greatest mischiefs that have happened of late years to the kingdom,—mischievous to the public, destructive to trade, and prejudicial to lands." We shall endeavour to disentangle from his long and laboured statement such facts as may enable us to obtain a view of the improved facilities for travelling which had arisen in the fifty-six years which elapsed between the date of Fyne Moryson's book and that of this production. It will sometimes be necessary to state the writer's complaints in order to bring out the details. We, of course, cannot sympathise in his feelings, and shall have occasion to smile at his opinions and fears. But it may, nevertheless, be well to remember that the stage-coaches of which he complains were not such as those we now possess: they were evidently clumsy and ill-conducted vehicles, and, from the wretched state of the roads at that time, travelling in them must have been immeasurably inferior to any mode of land conveyance that we now boast.

The "Lover of his Country" dwells with great bitterness on the effeminacy which these vehicles engender in his majesty's subjects. "They become weary and listless when they ride a few miles, unwilling to get on horseback, and unable to endure frost, snow, or rain, or *to lodge in the fields*. That stage-coaches discourage the breed of horses is evident; for will any man keep a horse for himself and another for his man all the year to ride one or two journeys, who at pleasure, when he has occasion, can slip to any place where his business lies, for two, three, or four shillings, if within twenty miles of London, and so proportionably into any part of England. Formerly, every man that had occasion to travel many journeys yearly, or to ride up and down, kept horses for himself or servants, and seldom travelled without one or two men; but now, since every man can have a passage into every place he is to travel unto, or to some place within a few miles thereof, they have ceased to keep horses or to travel with servants. York, Chester, and Exeter stage-coaches, each of them with forty horses a-piece*, carry eighteen passengers a week from London to either of these places, and the same number in return from thence to London. There are also other coaches which, with four horses and carrying six passengers, go daily to places within twenty or thirty miles of London, and others that go and return the same day from places within ten miles. There are stage-coaches that go to almost every town within twenty or twenty-five miles of London, wherein passengers are carried at such low rates that most persons in and about London, and in Middlesex, Essex, Kent, and Surrey, gentlemen, merchants, and other traders that have occasion to ride, do make use of, who, before these coaches did set up, kept a horse or two of their own, but now have given over keeping the same; so that, by computation, there are not so many horses by ten thousand kept now in these parts as there were before stage-coaches were set up!"

We were going to point out the laughable points in this complaint; but on a moment's reflection we abstain from throwing a stone at this old gentleman of the seventeenth century, lest we should break the windows of some of our neighbours in the nineteenth century, who have very recently spoken in much the same way against canals, rail-roads, and steam vessels and carriages. It is curious to hear the stage-coach people of our own day repeating against others the arguments which were formerly employed against themselves.

The writer dwells at great length on the injury which trade had sustained through the stage-coaches; and he makes it out as if there were scarcely any employment of life which had not been greatly injured by the innovation. We pick out a few passages to illustrate, not his argument, but the state of travelling.

"Before the coaches were set up, travellers rode on horseback, and men had boots, spurs, saddles, bridles,

* This seems to mean that forty horses were employed between London and York, &c., at the different stages, to draw a coach to and fro, which held six persons, thrice a week.

saddle-clothes, and good riding suits, coats and cloaks, stockings and hats, whereby the wool and leather of the kingdom was consumed. Besides, most gentlemen before they travelled in coaches used to ride with swords, belts, pistols, holsters, portmanteaus, and hat-cases, which in these coaches they have little or no occasion for. For when they rode on horseback, they rode in one suit, and carried another to wear when they came to their journey's end, or lay by the way; but in coaches they ride in a silk suit, with an Indian gown, with a sash, silk stockings, and the beaver hats men ride in, and carry no other with them. This is because they escape the wet and dirt, which on horseback they cannot avoid; whereas in two or three journeys on horseback these clothes and hats were wont to be spoiled: which done, they were forced to have new very often, and that increased the consumption of manufacture. If they were women that travelled, they used to have safeguards and hoods, side-saddles and pillions, with strappings, saddle or pillion cloths, which for the most part were laced and embroidered; to the making of which there went many several trades, now ruined." Our "Lover of his Country" does not forget to add that clothes and other property were also more liable to be lost under the saddle than under the coach system; and how much this circumstance tended to the encouragement of trade needed not be told.

Immediately after this, however, the author neutralizes his previous statements by complaining of the increased frequency of travelling among the country gentry who, at London and elsewhere, were led into expenses in purchasing things the want of which they would not have felt if they had remained at home. The stage-coaches and caravans are also alleged to hinder the consumption of provisions. "For instance, a coach with four horses carries six passengers; a caravan, with four or five horses carries twenty, or twenty-five: these, when they come to their inn, club together for a dish or two of meat; and having no servants with them, spend not above 12*d.* or 16*d.* a-piece at a place; yet perhaps foul four, five or six pair of sheets."

From the writer's attempt to show that stage-coach travelling was dearer than going on horseback, we quote so much as shows the cost of stage-coach conveyance in his time:—"Men do not travel in these coaches with less expense of money or time than on horseback: for on horseback they may travel faster; and if they please, all things duly considered, with as little if not less charges. For instance, from London to Exeter, Chester, or York, you pay 40*s.* a-piece in summer, and 45*s.* in winter for your passage; and as much from those places back to London. Besides, in the journey they change coachmen four times, and there are few passengers but give 12*d.* to each coachman at the end of his stage; which comes to 8*s.* backward and forward, and at least 3*s.* comes to each passenger's share to pay for the coachman's drink on the road: so that in the summer the passage backward and forward to either of these places costs 4*l.* 11*s.*, and in winter 5*l.* 1*s.*; and this only for *eight days' riding in summer and twelve in the winter.*" It thus appears that, at this early period in the history of stage-coaches, it took six days in winter and four in summer to perform a journey which is now done, at all seasons, in less than twenty-four hours! He afterwards allows five days for the same journey on horseback.

The writer then proceeds to contend that travelling on horseback was much superior, even in point of personal convenience, to riding in stage-coaches. His statement will, at any rate, enable us to perceive how greatly our travelling facilities, both as to roads and conveyances, have been improved since the seventeenth century.

He asks, "what advantage it can be to a man's health to be called out of bed into these coaches an hour or two before day in the morning;—to be hurried in them from place to place till one, two, or three hours within night: insomuch that, after sitting all day, in the summer-time, stifled with heat and choked with dust,—or, in the winter-time, starving or freezing with cold, or choked with filthy fogs, they are often brought into their inns by torch-light, when it is too late to sit up to get a supper, and next morning they are forced into the coach so early that they can get no breakfast? What addition is it to men's health or business to ride all day with strangers, oftentimes sick, ancient, diseased persons, or young children crying; all whose humours he is obliged to put up with, and is often poisoned with their nasty scents, and crippled with the crowd of boxes and bundles? Is it for a man's health to be *laid fast in the foul ways, and forced to wade up to the knees in mire; afterwards sit in the cold till teams of horses can be sent to pull the coach out?* Is it for their health to travel in rotten coaches, and to have their tackle, or perch, or axle-tree broken, and then to wait three or four hours (sometimes half the day), and afterwards to travel all night to make good their stage?"

The writer then argues that stage-coaches are not necessary to any persons whatever. Sick or aged persons, or young children, if they have occasion to travel, may ride in the long waggon-coaches, *which are those that were first set up*, and are not now opposed, as they do little or no hurt. Gentlemen may keep coaches of their own, or ride on horseback. And as for the poor, "if they be poor people that are to travel, it is not fit that they should be encouraged in their pride and extravagancy, or suffered to ride among gentlemen; or, like persons of honour, in a coach with four or six horses."

The "Lover of his Country" seems, in conclusion, to despair of putting down the "nuisance" entirely, and condescends to suggest the following modifications. "If some few stage-coaches were continued, to wit, one to every shire-town in England, to go once a week backward and forward, and to go through with the same horses they set forth with, and not travel above thirty miles a day in the summer and twenty-five in the winter, and to shift inns every journey, that so trade might be diffused,—these would be sufficient to carry the sick and the lame, that they pretend cannot travel on horseback; and, being thus regulated, they would do little or no harm; especially if all be suppressed within forty or fifty miles of London, where they are no way necessary, and yet so highly destructive."

In another Number we purpose to furnish some other notices of stage-coach travelling to the present time.

LOVE every one in whom ye behold the honoured traces of humanity, even where they seem in ruin.—*Wieland.*

Devouring Books.—It is recorded of Madame de Stael Holstein, that before she was fifteen years of age she had "devoured" 600 novels in three months, so that she must have read more than six a-day upon an average. Louis XVI., during the five months and seven days of his imprisonment immediately preceding his death, read 157 volumes, or one a-day. If this species of gluttony is pardonable in circumstances like those of Louis, it is less so in those of a young lady of fourteen or fifteen. No one can have time for reflection who reads at this rapid rate; and, whatever may be thought, these devourers of books are guilty of abusing nature to an extent as much greater than those who overcharge their stomachs as the intellectual powers are higher than the animal propensities. Thousands of young people spend their time in perpetual reading, or rather in devouring books. It is true, the food is light; but it occupies the mental faculties for the time in fruitless efforts, and operates to exclude food of a better quality.—*American Annals of Education.*

REMBRANDT.



[Jacob's Blessing.]

The above scene is fully detailed in the Book of Genesis. Jacob, who, after the loss of his son had not expected to see him again, afterwards dwelt with him in Egypt nearly twenty years, beheld the extent of his authority and the esteem with which he was regarded, and saw in Joseph's children the commencement of that increase which was in the course of time to render his posterity one of the most extraordinary people of the earth. At Jacob's own request, the two children of Joseph, Ephraim and Manasseh, were brought to receive his blessing shortly before his death. The eldest, Ephraim, stood at his father's right hand, and Manasseh on his left. In putting out his hands to give them his benediction, Jacob placed his right hand upon the head of the youngest, instead of the first-born, which Joseph perceiving, said,—" Not so, my father: for this is the first-born." But his father did not remove his hand, and in blessing them foretold the future greatness of both the children; but that the posterity of the younger should become a multitude of nations, while that of the elder should only become a single people. The female standing at the foot of the [redacted] probably intended for Azenath, Joseph's wife.

In this composition the most striking figure is that of the venerable patriarch, in whom the painter has blended dignity and solemnity, while an expression of paternal affection triumphs over the decrepitude and dimness of age. The children present a striking contrast to each other. Ephraim receives with heartfelt reverence the benediction of his grandfather; while his elder brother seems intent on other things, and altogether abstracted from the passing scene. The painter has also lavished upon one a profusion of ringlets, and a more marked character of personal beauty. More of art is visible in one, but nature shines with greater force in the other.

Paul Rembrandt, called Van Ryn, owing to his birth-place being near Leyden, at only a short distance from the Rhine, was born in 1606. As he did not show much aptitude for letters, his father, who was a miller, and had been successful in his calling, gratified his son's inclinations by placing him under a painter, with whom he remained three years. He then studied at Amsterdam; after which he returned to his home, determined in future to follow no other guide but nature. A picture which he finished at this time excited the admiration of some of his neighbours, who advised him to proceed to the Hague and dispose of it there. He did so, and obtained for it 200 florins. Much encouraged by this successful commencement, Rembrandt proceeded to the capital, where he prosecuted his avocation as a painter, to which he added that of an engraver, with great diligence. He also established a school for instruction in the former art, and soon found himself in the pathway to competence and an honourable fame.

It has been hitherto pretty generally asserted that Rembrandt was of an exceedingly avaricious disposition, and that it increased as his good fortune augmented. But this and some other charges are proved to be unfounded by later biographers, who have entered into a closer examination of the circumstances of his life. Mr. Nieuwenhuys has shown, in his 'Review of the Lives and Works of some of the most Eminent Painters,' that Rembrandt, being at one period desirous

of purchasing a large house, obtained a loan of 4180 guilders from one of the burgomasters. In 1656, when the period for the repayment of the money had arrived, the country was in a state of great embarrassment, and Rembrandt was in consequence unable to satisfy his creditor, who caused his property to be seized. Mr. Nieuwenhuys has given the inventory of his effects. This list proves his devotion to art, and contains a number of paintings, engravings, and drawings of eminent masters, and a valuable collection of casts, &c., from the antique. The number of the painter's own productions in this catalogue show that his embarrassments were not occasioned by any want of industry in his profession. Rembrandt died in 1674, aged 68.

The connoisseur will not always find in the works of Rembrandt either accuracy of design, elegance of form, or lofty conceptions. But to balance these defects, what knowledge of light and shade,—what magic colours,—what simplicity and force of expression! The characteristics of his compositions are so peculiar, that the least practised eye can distinguish them. The most striking is his distribution of light, which he generally threw in a single mass on a particular point. His colours were often so thickly laid on, that it has been said he intended to model rather than to paint. De Piles, in his work on the merits of the great painters, in which he divided each of the points of excellence into twenty parts, assigned to Rembrandt the following proportions:—composition, 15 degrees; design, 6; colouring, 17; expression, 12. With respect to colouring, he was placed on an equality with Rubens and Vandyke. Gerard Dow was one of Rembrandt's pupils.

Rembrandt's engravings are, as well as his paintings, an object of research to the lovers of art. He used the burin in a style of great freedom and originality, yet his engravings have an expression of great boldness and harmony.

BEES IN RUSSIA AND PORTUGAL.

In former Numbers we have furnished accounts of the management of bees in this country, both according to the old process and according to that which promises ultimately to supersede it. It may perhaps be interesting to many of our readers to follow up those statements by an account of the method which is pursued in the southern provinces of European Russia, for the purpose of obtaining honey from the wild bees which abound in that region. Our information on the subject is chiefly derived from Mr. Tooke's 'View of the Russian Empire,' published in 1800.

It should, in the first instance, be mentioned, that bee-management is not, in Russia, so inconsiderable and subordinate a branch of husbandry as in most other countries. It is there an important business, conducted on a large scale, and affording the principal means of subsistence to some of the nations, or tribes, which inhabit the vast Russian territory. The produce also forms an important article in the commerce of the empire; and some idea may be formed of its importance from the fact that, after deducting the home consumption, not less than from 450 to 550 cwt. of bees' wax was annually exported from the Baltic alone early in this century. Honey, too, forms a most important article of home consumption; and the southern provinces not only supply the north of European Russia, but also all Asiatic Russia—for there are no bees to the east of the Ural Mountains. The best honey is that called the "white-linden honey," which is principally obtained from the hives of domestic bees in those parts where the linden-forests most abound.

The breeding and management of bees in Russia are not only pursued more in the gross than anywhere else, but the process generally pursued is quite peculiar to that country. Bees are kept in most of the provinces; but honey is obtained in by far the largest quantities from the wild bees. The Bashkirs, and some other tribes inhabiting the country west of the southern Ural, are those who devote themselves the most exclusively to this branch of business, which seems to be carried on with the greatest vigour in the governments of Kazan and Oufa. There are individuals among the Bashkirs who, besides their bee-gardens, possess hundreds, and sometimes thousands, of wild-bee hives in the forests. It is only necessary to describe the proces in use among the Bashkirs, as it is the same which is followed by the other tribes that apply themselves to this useful pursuit.

It is most usual to prepare in the forests for the bees a very peculiar description of hives, which the bees spontaneously enter, and there deposit their honey. When it is the intention of the Bashkirs to prepare receptacles for the bees, they repair to the forest, and select the straightest and strongest trees which they can find, always preferring the hardest kinds of timber. On these, at the height of twenty-four or thirty feet above the ground, they construct the bee-house by hollowing out a large smooth cavity in the trunk of the tree with a tool resembling a chisel. When the work is completed, the aperture is closed with a board, in which are several holes large enough to afford the bees free ingress and egress.

The manner in which the Bashkirs execute this rather difficult work, and the agility with which they ascend the loftiest and smoothest trees, affords a fine display of dexterity and skill. A rope and a sharp hatchet is all that they require to assist their ascent. The workman places himself against the trunk of the tree, around which and his own body he fastens a rope. He then with his hatchet cuts a notch in the trunk at a certain height, and setting his feet against the tree, springs to that height by the help of the rope. He supports himself by the rope, resting his feet in the notch until he has cut another, to which he ascends in the same manner; and this is continued until he reaches the desired point. As he is to make some stay there, he notches in the tree a more convenient stand for his feet than was before necessary: resting his feet in this, and supporting the weight of his body by the rope, he then commences his work, the tools required for which he has taken up in his girdle. It is always considered necessary to cut away the branches below the hive, in order to render the access more difficult to the bears, which still exist in considerable numbers in the Ural, and which are by far the most dangerous enemies known to the bee cultivator. Some of the measures adopted to secure the hives from the depredations of these animals are very curious.

The most common contrivance is to insert a number of knives or iron spikes bent upwards into the trunk of the tree. The bear, by the exercise of great caution and sagacity, is generally able to clamber up a tree thus defended without much difficulty; but in sliding down again he seldom escapes with his life, or at least without being desperately wounded, being caught by the hooks and lacerated by the knives in the descent. Some old and experienced bears, who have learned what to expect from these instruments, have been known to loosen or break them with their paws as they went up.

Another method, which is considered more certain than the former in its effects, is to suspend a thick and heavy block of wood before the aperture of the hive. This block the bear flings from him repeatedly with increasing fury; but as often as he does so, the block, of course, returns and hits him violent blows upon the head. Irri-

tated to the utmost, the animal increases the violence of his efforts, and at last, exhausted by his rage and exertions, and partly stunned by the blows, falls upon the spikes that are planted on the ground to receive him.

But a more ingenious contrivance than either of these is to take the bear in a trap of very simple construction. It is not unlike a large scale, such as we sometimes see in wholesale shops; consisting of a board with ropes at each corner united at the top. It is then fastened to a branch above the hive in such a manner that if left suspended perpendicularly, the board would be at some distance from the trunk. But when the rope is properly fastened to the branch, the board is drawn from the perpendicular, and attached slightly to the trunk on a level with the door of the hive, in such a manner that the fastening remains the only obstacle to prevent the bear from obtaining access to the hive. When the bear ascends and finds a seat which seems so admirably adapted to his convenience, he gets upon it, and soon commences tugging to remove the only obstacle between him and his desired prey; but as this obstacle is the fastening of the board to the trunk of the tree, the animal no sooner succeeds in his object than his seat swings off with him to its perpendicular. He thus remains suspended in the air, in a sufficiently mortifying situation, until some one arrives to shoot him: but sometimes he throws himself off, and is then impaled upon the pointed stakes which are planted round the tree.

It may be interesting to compare this method of dealing with bees at the eastern extremity of Europe, with the process which, according to the account given in Murphy's 'Travels,' is pursued at the opposite extremity of the same continent.

In Portugal, when it is intended to form a colony of bees, a spot of ground is chosen exposed to the south, or south-east, well sheltered from the northern blasts, and surrounded with shrubs and flowers; the more of rosemary there is among these the better. In selecting a situation, the condition of the neighbouring grounds is a point of consideration, as bees are said to range as far as a league from their hives in quest of food. The situations being chosen, lanes five or six feet wide are cut through the shrubby thickets. The fences of these lanes are of about the same height, and are formed into small recesses or niches for the reception of the hives.

The hive, which is formed of the rind of the cork-tree, is usually of a cylindrical shape, about twenty-seven inches high by fourteen in diameter. This is covered with an inverted earthenware pan, the edge of which projects over the cylinder like a cornice. The whole is fastened with wooden pegs, and the joints are stopped with peat. In the front of the cylinder, at the height of about eight inches, is a small aperture, at which the bees go in and out. The interior is divided into three equal parts, separated by cross sticks. Here the bees form their combs and cells, and deposit their honey.

When the bees swarm, which is usually in May or June, the hives are placed to receive them where they alight. If they descend on a tree they are shaken off. The person who does this sometimes defends his face with a wire mask and his hands with gloves; but in general this precaution is not considered necessary, as it is known that bees only sting when much irritated. Sometimes the bees are so wild that they fly away when it is attempted to collect them. When this happens, they may still be recovered. A sheet is, during the night, spread out upon the ground near the swarm. They alight on this, when a hive with the entrance closed is placed upon them, and the whole is then carried home in the sheet.

When the time arrives for collecting the honey, the business is usually performed during the heat of the day, when most of the bees are absent. The operator, whose head and hands are guarded in the manner before mentioned, is attended by a person with a small chafing-dish, containing a coal fire, which is covered with damp peat, to make the greater smoke. This smoke is introduced into the hive from the top of the cylinder, when the bees which happen to be there either fly away or remain stupified at the bottom. The hive is then taken to pieces by drawing out the pegs, and the comb is cut out, except a small portion which is left to induce the bees to adopt it as the nucleus of a new comb. After this work has been performed, the hive is put together again, and replaced in its former situation.

The apiarian often visits the ground to repair any accident that may have happened. He is careful not to destroy any snakes which may frequent the place, as they never molest the bees, but destroy the toads and lizards which are obnoxious to them. When a hive is decayed, it is taken asunder and fumigated, and then the bees forsake it and seek shelter in an adjoining hive which has been previously prepared for the purpose. This operation is commonly performed in the spring, when the flowers begin to open, and there is plenty before them. As the bees, in returning from their excursions, are heavily burdened and fatigued, great care is taken that there shall be nothing near the hives to obstruct their descent, which is not in a perpendicular but an oblique direction.

NARES'S GLOSSARY.

The 'Glossary' of Archdeacon Nares is unquestionably one of the most valuable additions which have been made of late years to the long list of English dictionaries. It was published in 1822, and is a solid quarto of 585 pages. It is chiefly occupied with the interpretation of the dramatic writers of the age of Elizabeth and James I.; and from the book being so large, and the subject so confined, the details are minute and accurate. Half-a-dozen such glossaries, each explaining a different department or age of English literature, would be excellent and necessary forerunners of a truly complete English dictionary, bearing the same relation to it that topography does to geography. A few extracts will show the nature of the work.

"*Apostle spoons*. Spoons of silver gilt, the handle of each terminating in the figure of an apostle. They were the usual present of sponsors at christenings. Some are still to be seen in the collections of the curious. It is in allusion to this custom that, when Cranmer professes to be unworthy of being sponsor to the young princess, the king replies,—

'Come, come, my lord, you'd spare your *spoons*.'
Henry VIII. Act v. Sc. 2.

These spoons are often mentioned by the writers of that time:—

'And all this for the hope of two *apostle-spoons*, to suffer! and a cup to eat caudle in! for that will be thy legacy.'
B. Jonson's Barth. Fair, Act i, Sc. 3.

"*Black Monday*, *Easter Monday*. So called from the severity of that day, April 14, 1360, which was so extraordinary, that of Edward III.'s soldiers, then before Paris, many died with the cold.—*Stowe*, p. 264.

'Then it was not for nothing that my nose fell a-bleeding on *Black Monday* last.'—*Mer. Venice*, Act ii. Sc. 5.

"*Caul*. A thin membrane, found encompassing the head of some children when born: superstitiously supposed to be a token of good fortune throughout life. These cauls were even imagined to have inherent

virtues, and were sold accordingly; nor is the superstition yet extinct, for advertisements for the sale of them are still not uncommon. Mr. Todd testifies the same. They are also considered as preservatives from drowning, and for that purpose are sold to seafaring people*.

"*Camomile.* It was formerly imagined that camomile grew the more luxuriantly for being frequently trodden or pressed down; and this was a very favourite allusion with poets and other writers. Shakspeare ridicules an absurd use of it:—

'For though the *camomile* the more it is trodden on the faster it grows, yet youth, the more it is wasted, the sooner it wears.'
1 Henry IV. Act ii. Sc. 4.

The above is evidently written in ridicule of the following passage, in a book then very fashionable, 'Lyly's Euphues,' of which it is a parody:—

'Though the *camomile* the more it is trodden and pressed downe, the more it spreadeth; yet the violet the oftener it is handled and touched the sooner it withereth and decaieth.'—*Euphues*, Sign. D. *Bl. Let.*

"*Childermas Day.* It was a popular superstition, which in the remote parts of the island is not yet extinct, that no undertaking could prosper which was begun on that day of the week on which *Childermas*, or Innocents' Day last fell.

'Friday, quoth-a, a dismal day! *Childermas Day* this year was Friday.—*Sir John Oldcastle.* Part I. Suppl. to Sh. vol. ii. p. 297.

"*Coat-cards.* The figured cards now corruptly called *court-cards*. Knaves, we trust, are not confined to courts, though kings and queens belong to them. They were named from their dresses. The proofs of it are abundant. One says,—

'I am a *coat-card* indeed.'

He is answered,—

'Then thou must needs be a knave, for thou art neither king nor queen.'—*Rowley, When you see me, &c.*

——'We call'd him a *coat-card*
Of the last order.'—*B. Jons. Staple of News.*

'She had in her hand the Ace of Hearts, with a *coat-card*.'
Chapman's May-day.

The same is alluded to by Massinger:—

'Here's a trick of discarded cards of us: we were ranked with *coats* as long as my old master lived.'—*Old Law.* Act. iii. Sc. 1.

"In 'Robertson's Phrase Book,' (1681,) under *Card*, we find this:—'The dealer shall have the turnup card if it be an ace, or a *cote-card*.' But the usage being then become doubtful, *court-card* is subjoined.

"*To draw* Cuts. To draw lots, being papers cut of unequal length, of which the longest was usually the prize.

'How shall we try it? That is a question. We will draw cuts for the senior; till then, lead thou first.'
Com. of Errors. Act v. at the end.

"In the 'Complete Angler' (Part I. ch. v.) they *draw cuts* who shall sing:—

Pisc.—'I think it best to *draw cuts*, and avoid contention.'
Pet.—'It is a match. Look, the *shortest cut* falls to Coridon.'
Cor.—'Well then, I will begin, for I hate contention.'
Bagster's 2nd ed. p. 164.

Thus the *shortest cut* was here the loser, or the person to pay the social penalty of a song. It occurs in the old Scotch song of 'Bessy Bell and Mary Gray,' where the lover thus settles his wish for both lasses:—

'Wae's me, for baith I canna get,
To ane by law we're stented:
Then I'll *draw cuts*, and take my fate,
And be with ane contented.'
Mus. Misc. Vol. i. p. 160.

"*Dinner Time.* The proper time for dinner is laid down by Thomas Cogan, a physician, in a book entitled the 'Haven of Health,' printed in 1584. It is curious to observe how far we have since departed from the rule:

'When foure houres bee past after breakefast, a man may safely take his dinner, and the most convenient time for dinner is about *eleven* of the clocke before noon. The usual time for dinner in the universities is at *eleaven*, or else where about noon.'
Chap. 211.

So Old Merrythought, in 'Beaumont and Fletcher,' says,—

'I never came into my dining-room but at *eleven* and *six* o'clock: I found excellent meat and drink on the table.'
Kn. of B. Pest. Act i. Sc. 3.

It soon became later:—

'Or if our meals would, every *twelve* and *seven*,
Observe due hours.'—*Mayne's Amor. War.*

"*Jew's Eye.* This phrase does not require explanation, but its origin may be worth remarking. The extortions to which the Jews were subject in the thirteenth century, and the periods both before and after, exposed them to the most tyrannical and cruel mutilations, if they refused to pay the sum demanded of them. 'King John,' says Hume, 'once demanded 10,000 marks from a Jew of Bristol, and, on his refusal, ordered one of his teeth to be drawn every day, till he should consent. The Jew lost seven teeth, and then paid the sum required of him.'—Chap. xii. A. D. 1272. The threat of losing an eye would have a still more powerful effect. Hence the high value of a *Jew's eye*. The allusion was familiar in the time of Shakespeare:—

'There will come a Christian by
Will be worth a *Jewess' eye*.'
Mer. Ven. Act ii. Sc. 5.

The fine black eye of the Jew does not seem sufficiently to account for the saying."

We will give our remaining extracts in an abridged form.

"*Maundy* Thursday (the day preceding Good Friday) is derived from *maund*, a basket; on account of the king giving alms every year at Whitehall on this day, and the gifts being contained in baskets.

"*Sizer*, at Cambridge, equivalent to servitor at Oxford: from *size*, a small portion of bread, or other food, a term still in use there.

'To bandy hasty words to scant my sizes.'—*Lear*, Act i. Sc. 4.

"*Watch.* Though the invention of watches may be traced to the fourteenth century, the wearing a watch was considered a mark of gentility until a late period. Aubrey relates a curious story of watches. Mr. Allen, a reputed sorcerer, being at Home Lacey, in Herefordshire, happened to leave his watch in the chamber-window. The maids coming in to make the bed, and hearing a thing in a case cry *tick, tick, tick*, concluded that this was Mr. Allen's devil, or familiar spirit, and taking hold of it with the tongs, threw it out of window into the moat, in order to drown the devil. The string, however, caught hold of the sprig of an elder-tree, and saved the old gentleman's watch. This may have happened about the year 1590.

"*Wych*, a salt-spring, or salt-work. All the places where salt-springs, or pits, were anciently found terminate in *wych*, or *wich*. Hence Drayton speaks collectively of the *wyches* in Cheshire:—

'But that which vexed her most was, that the Peakish cave
Before her darksome self such dignity should have;
And th' *wyches*, for their salts, such state on them should take.'
Polyolb. Vol. iii. p. [illegible]

And the marginal note on *wyches*, is 'the salt-wells in Cheshire.'"

* One was advertised to be sold in April, 1835, price twelve guineas.

₊ The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

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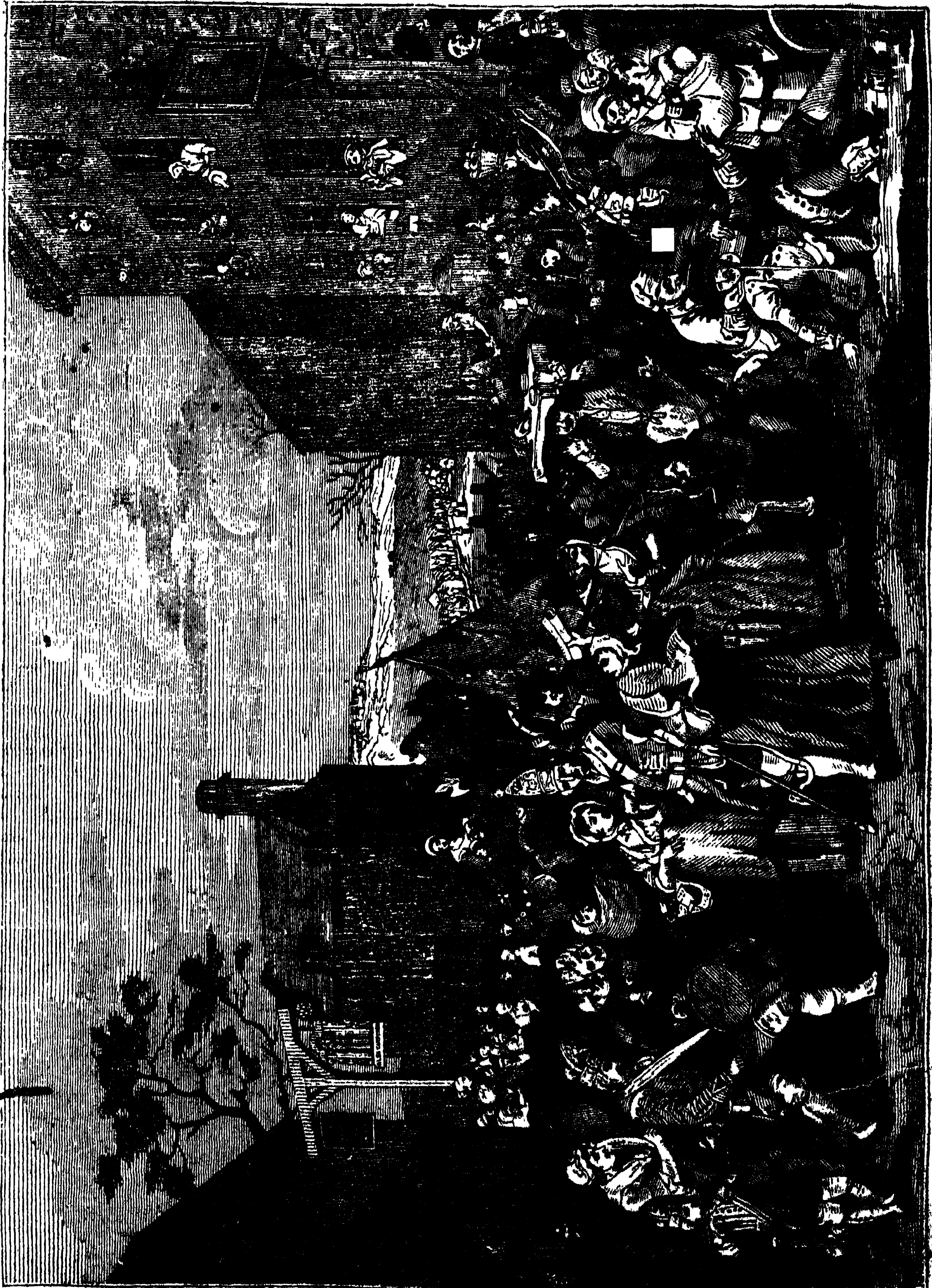
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201.] PUBLISHED EVERY SATURDAY. [May 23, 1835

HOGARTH AND HIS WORKS.—No. XV.

March to Finchley.



[March to Finchley.]

The general subject of this engraving is the march of the Foot Guards to their place of rendezvous on Finchley Common, in their way to Scotland against the rebels in the year 1745. As the numerous circumstances which this picture embraces do not *tell* on any one point, it would be difficult to say anything in the way of illustration beyond what the picture itself relates, did we not possess the advantage of a very complete explanation by a writer who was a contemporary and friend of the artist. This explanation was for a long time attributed to Bonnel Thornton; but Mr. Samuel Ireland in his 'Graphic Illustrations of Hogarth,' states that the daughter of Saunders Welch, Esq., a magistrate of Westminster, informed him that the article was written by her father, an old and much-esteemed friend of the artist, whose portrait in oil of Mr. Welch is still extant, and is engraved in Ireland's work. The lady further informed him that this critique or explanation being published in the periodical paper called 'The Student,' occasioned some difference of opinion between her father and Hogarth. The critique does not, however, appear to have given any serious offence to the painter, notwithstanding the reported irascibility of his temper; for he said,—"I generally thought with the author of this paper, and when I differed from him I have found reason to take shame to myself."—And now to the explanation, in which we do not purpose implicitly to follow Mr. Welch, but shall, at our discretion, occasionally avail ourselves of other explanations, particularly of one which appeared in the 'Old Woman's Magazine,' and which Mr. John Ireland has copied, as well as the other, into his "Hogarth Illustrated."

The scene of the representation is laid at Tottenham Court Turnpike, the King's Head, Adam and Eve, and the Turnpike-house, being in full view; beyond which appear parties of guards, with baggage, &c., marching towards Highgate, with a distant prospect of the open country. The picture, considered as a whole, affords a view of a military march, and the disorders and humours connected with it.

Near the centre of the picture the painter has placed his principal figure, which is that of a handsome young grenadier, who seems distracted by the rival claims of the women on his right hand and on his left. The one to his right appears to be a young woman who has become the victim of his passions, and by them has perhaps been reduced to her present condition of a ballad-singer. This woman who holds his right arm, and regards him with mingled affection and distress, is strongly contrasted with the other, who appears to have equal claims upon him, and whose countenance expresses jealousy and rage at finding him thus situated, while her uplifted arm threatens him with the weight of her anger. The contrast between the two women is complete throughout; it seems to be even intimated, in Hogarth's own ingeniously indirect way, that they are of opposite political parties; all the wares in the ballad-woman's basket—such as the song of 'God save the King,' and a portrait of the Duke of Cumberland—being of a loyal description; while the other, who appears to be a news-hawker, is furnished with a supply of exclusively Jacobite journals, the titles of which are apparent in the original painting. The cross on the cloak of the latter may also be intended to denote a difference of religion. The outrageous character of the proceedings of this woman has attracted the notice of the serjeant behind the group, and he seems prepared to interpose with no very gentle exercise of the authority with which he is invested. The hard-featured appearance of this man is in good contrast with the principal figure.

Near the left corner of the picture is another leave-taking scene between a drummer and his wife and child. The grief of the two latter is of so clamorous a description, that the man, to put an end to the scene, recurs to his drum, and is aided by the "ear-piercing fife" of the boy near him, the sweetness of whose figure affords an interesting contrast to the ruggedness of the objects around him. This figure is the portrait of a clever lad, to whom the Duke of Cumberland gave a commission at a subsequent period. Between this and the principal group appears a Frenchman, who is communicating to another person the contents of a letter which he holds in his hand. The person to whom he speaks appears to be an old Highlander in disguise; he seems to be much interested in the information of the Frenchman, who is understood to state that a large French force had landed to assist the Pretender.

Those of our readers who have opportunities of seeing the original picture, will observe that the innocent smile of the child which, being carried on its mother's back, has its face brought on a level with that of the Highlander, affords a beautiful and interesting contrast to the grim joy which the countenance of the latter exhibits.

The back-ground of this portion of the picture displays the various brutal circumstances of a pugilistic combat. The combatants are encouraged by a well-dressed blackguard, while an aged female, moved by womanly compassion, endeavours to press forward to separate them, but is intercepted and held back by a fellow in the crowd, who does not desire the fray to be interrupted. Somewhat elevated above the rest of the mob, appears an excited little man, who by his clenched fists and animated appearance seems to imagine himself an actual party in the combat. This figure, which is understood to be the portrait of a cobbler of the real or nick name of Jocky James, is contrasted with the heavy figure of the man behind him. The whole of this scene of confusion has a charming contrast in the decent young woman who is raised above it on the baggage-cart, and is quietly suckling her child. A circumstance of repose of another kind is exhibited in the two old women who are smoking their pipes, and engaged in earnest confabulation upon the very summit of the baggage. It is highly instructive and interesting in this way to trace out the judiciously-introduced circumstances of contrast which most of the pictures of Hogarth exhibit.

There is a marked distinction between the character and tone of the circumstances in the separate portions of the picture, if we consider it as divided into two portions by the figures of the central group. All the characters represented in the portion which has hitherto engaged our attention are more or less seriously occupied, while, on the contrary, the opposite portion exhibits little besides fun, frolic, and mischief.

Immediately to the left of the central group, an officer is offering a rude salute to a milkmaid, whose resistance endangers the safety of his ruffles. An arch-looking rogue of a soldier, perceiving the maid's attention to be thus engaged, avails himself of the opportunity to fill his hat from her milk-pail, while a young chimney-sweep hastens forward, and holds forth his sooty cap, soliciting the soldier to fill it when his own turn has been served. Another soldier points out the fun of this scene to a pieman; and while the simple fellow regards it with the utmost glee, the knavish soldier adroitly abstracts the pies from his board. All these prominent figures are connected in one incident by their mutual attention to and dependence on one another. Critics expatiate with warm and deserved praise on the richly-comic figure of the pieman, which is probably not exceeded by anything of the kind in any of Hogarth's works. It is a portrait, as is also the chimney-sweep; who, together with the

fifer-boy, were hired by Hogarth to sit to him for half-a-crown a-piece.

The next principal group in the foreground is an illustration of gin-drinking. A soldier, with his dress in great disorder, has sunk upon the ground, overcome by the efficacy of that potent poison. Yet he calls for more; and two persons respond to the call. One, a mirthful comrade, endeavours to force him to drink water from his canteen; but from this the drunkard turns away with disgust, and holds out his hand for the dram which the female sutler readily fills out for him. But another arm is also held out for it. The emaciated child, which this woman carries on her back, stretches forth its little grasping hand, with earnest entreaty, for a taste of that burning fluid which it has been already taught to relish. This is painful, because it is true.

We may direct the attention of the reader to the chickens in front of this group. Welch informs us that they had been pointed out as an exquisite absurdity by a contemporary, who was a professed connoisseur in painting. He had said that nothing could be more ridiculous than to introduce chickens so near such a crowd; and what increased the absurdity was, that the birds were not, as might naturally be expected, endeavouring to escape from the crowd, but were actually running towards what it is their nature to shun. Welch points, with well-authorized triumph, to a truly Hogarthian circumstance, which had escaped the notice of this acute critic. The chickens are seeking the parent-hen, the presence of which, in the pouch of the soldier who offers water to the drunken man, is indicated to the spectator by the appearance of one of the wings.

The corner of the picture, under the sign-post of the King's Head, is occupied by an honest tar on horseback, whose exuberant loyalty finds vent in the established maritime method. The loyalty of this man is understood to be contrasted with that of the fellow before him, with the countenance of a confirmed drunkard, who, with his gun on his shoulder and his bayonet in his hand, seems to threaten deadly measures against the enemy in the approaching conflict. The reader may, however, accept the alternative of another explanation, which supposes this man to be guarding from interruption the proceedings of his neighbour, who is filling his canteen through a hole which he has bored in a barrel of strong beer, with which a man is endeavouring to make his way through the crowd.

Among the figures in the background in this part of the picture, those which principally attract our attention are, the stately young officer, behind the last-mentioned group; the basket-woman; and the woman who defends herself from the rudeness of one fellow, while another abstracts some of the linen which she was engaged in taking down from the line on which it hung to dry.

Having thus endeavoured to elucidate, from various sources, all the principal and some of the subordinate details exhibited in our engraving, we now proceed to state some particulars connected with the history of this much-admired performance.

The circumstances attending the publication of the engraving and the disposal of the picture are best explained in the following notices, which appeared, in 1750, in the 'General Advertiser.' The first advertisement appeared in April:—

"Mr. Hogarth is publishing by subscription a print representing the March to Finchley in the year 1746, engraved on a copper-plate, twenty-two inches by seventeen; the price *7s. 6d.* Subscriptions are taken at the Golden Head in Leicester Fields till the 30th of this instant, and not longer, to the end that the engraving may not be retarded. Note:—each print will be half-a-guinea after the subscription is over. In the subscription-book are the particulars of a proposal, whereby each subscriber of three shillings, over and above the said seven shillings and sixpence for the print, will, in consideration thereof, be entitled to a chance of having the original picture, which will be delivered to the winning subscriber as soon as the engraving is finished."

On the first of the next month, the following appeared in the same journal:—

"Yesterday, Mr. Hogarth's subscription was closed; 1843 chances being subscribed for, Mr. Hogarth gave the remaining 167 chances to the Foundling Hospital. At two o'clock, the box was opened, and the fortunate chance was 1941, which belongs to the said hospital; and the same night Mr. Hogarth delivered the picture to the governors." Mr. John Nichols states, that he was informed by Mr. Nathaniel Thomas (who was many years editor of the 'St. James's Chronicle'), that the general report at the time was, that the fortunate number belonged to a lady, who made a present of the picture to the hospital. It was deemed by many, at the time, an improper present. Hogarth himself, speaking of this picture, observes, "it was disposed of by lottery (the only way a living painter has any chance of being paid for his time) for 300*l*." * * "By the like means," he adds, "most of my former pictures were sold."

Soon after the lottery, Hogarth waited upon the treasurer to the Foundling Hospital, and informed him that the trustees were at liberty to dispose of the painting by auction. Scarcely, however, was the message delivered, before he changed his mind, and never afterwards would consent to the measure he had originally proposed. The Duke of Ancaster offered the hospital 300*l*. for the picture; and Mr. John Ireland understood that a much larger sum was afterwards offered for it by another gentleman.

It is rather remarkable that this representation of purely English manners and humours should be dedicated to the King of Prussia. The cause of this deserves to be explained. Before publication, the plate was inscribed to George II., and the picture was taken to St. James's for his Majesty's inspection. The king, who was a zealous soldier, but one of the most incompetent men on earth to enjoy a work of humour, or appreciate a work of art, was apparently prepared, from the title of the work, to expect a serious historical performance in honour of his favourite guards, who had marched so readily against the rebels. We may therefore imagine his amazement when the actual piece was placed before him. He was highly indignant that a painter should dare to satirize his gallant soldiers,—for thus he viewed the matter,—and sent back the picture with disgust. Some accounts state, however, though others are silent on that point, that the king sent the painter—*a guinea!* Whatever be the particular facts, it is certain that Hogarth was so much mortified by the reception which his great work received from the king, that he altered the dedication, and inscribed it to the King of Prussia, as an encourager of the arts.

DOMESTIC HABITS OF THE SCOTCH IN THE LATTER PART OF THE SIXTEENTH CENTURY.

The following curious account of some domestic usages in the northern part of the island, upwards of two centuries ago, is from Fyne Moryson's 'Itinerary,' which we lately had occasion to mention to our readers when furnishing an account of English travelling in the seventeenth century. Moryson travelled in Scotland in 1598.

"Myself was at a knight's house, who had many servants to attend him, that brought in his meat with their heads covered with blue caps, the table being more than half furnished with great platters of porridge, each having a little

piece of sodden meat; and, when the tables were served, the servants did sit down with us: but the upper mess, instead of porridge, had a pullet, with some prunes in the broth. And I observed no art of cookery, or furniture of household stuff, but rather rude neglect of both, though myself and my companion, sent by the governor of Berwick upon bordering affairs, were entertained in the best manner. The Scots, living then in factions, used to keep many followers, and so consumed their revenue of victuals, living in great want of money. They vulgarly eat hearth-cakes of oats, but in cities have also wheaten bread, which, for the most part, was bought by courtiers, gentlemen, and the best sort of citizens. When I lived at Berwick, the Scots, weekly, upon the market-day obtained leave, in writing, of the governor to buy peas and beans, whereof, as also of wheat, their merchants at this day send great quantities from London into Scotland. They drink pure wines, not with sugar, as the English, yet at feasts they put comfits in the wine, after the French manner; but they had not our vintners' fraud to mix their wines. I did never see nor hear that they have any public inns with signs hanging out; but the better sort of citizens brew ale, their usual drink (which will distemper a stranger's body), and the same citizens will entertain passengers upon acquaintance or entreaty. Their bedsteads were then like cupboards in the wall, with doors to be opened or shut at pleasure, so as we climbed up to our beds. They used but one sheet, open at the sides and top, but closed at the feet and so doubled. Passengers did seek a stable for their horses in some other place, and did there buy horse-meat, and if, perhaps, the same house yielded a stable, yet the payment for the horse did not make them have beds free, as in England. * * When passengers go to bed, their custom was to present them with a sleeping cup of wine at parting. The country-people and merchants used to drink largely, the gentlemen somewhat more sparingly; yet the very courtiers, at feasts, by night-meetings, and entertaining any stranger, used to drink healths not without excess; and, to speak truth without offence, the excess of drinking was then far more general among the Scots than among the English. Myself being, at the court, invited by some gentlemen to supper, and being forewarned to fear this excess, would not promise to sup with them but upon condition that my inviter would be my protection from large drinking, which I was many times forced to invoke, being courteously entertained, and much provoked to carousing, and so for that time avoided any great intemperance. Remembering this, and having since observed in my conversation at the English court with the Scots of the better sort that they spend great part of the night in drinking, not only wine, but even beer; as myself will not accuse them of great intemperance, so I cannot altogether free them from the imputation of excess, wherewith the popular voice chargeth them."

Operation of Tapping a Sandwich Islander.—This day has been one of no small interest. Our surgeon has, to the great surprise of the natives, successfully performed the operation of tapping Karaimoku. Lord Byron and some of the officers were present, as well as a number of the chiefs, some of whom were exceedingly anxious about the safety of the Regent, and could scarcely be made to comprehend that an opening in so material a part, considered by them as the seat of life, could be made without danger; and they seriously expected to see his highness's breakfast issue through the aperture. Their wonder and delight were accordingly extreme at the complete success of the surgeon; and Karaimoku himself, though he had generously trusted himself into the hands of a stranger, must have experienced a more than ordinary satisfaction at having done so. When asked, before the operation, if he objected to it, he answered, —"No: my life is in your hands; do as you think good." And though he suffered considerable pain, when it was over he exclaimed "Maitai, maitai!" (good, good.) Kahumanu was extremely affected; and though not in the habit of displaying much tenderness of nature, the tears were streaming down her face, while she supported his head, and repeatedly kissed his forehead. The relief the old man experienced was very great, as the quantity of water drawn off was considerable. * * * The success of our surgeon has contributed much to the favour with which we are regarded by the natives.—*Voyage of H. M. S. Blonde.*

Truth.—Nature had done so much for them in nothing as that it made them lords of truth, whereon all the other goods were builded.—*Sidney's Arcadia.*

TRUTH and reason are common to every one, and are no more his who spake them first, than his who spake them after.—*Montaigne.*

COACH-MAKING IN AFRICA.

I WAS consulted by Mukni (the Bey of Fezzan) respecting the construction of a coach, and I promised him that, if he could manage to procure good wood for the purpose, Belford should make it, and that I would train four horses to run it. I anticipated much pleasure and amusement in this new occupation, as I had at the time nothing to interest or divert me. * * * Belford now began to contrive the coach in question, and out of an old Shibbia and some boxes, he made a body, six feet in length, three in breadth, and four in height. This he covered over like a higgler's cart, with an arched top, having a door behind, by which a person might easily get in; but Mukni finding that he could squeeze himself into a smaller compass, had it reduced in such a way as to render it necessary for him to be pushed in and shot out like a sack of coals. The body being completed, and springs being out of the question, it was mounted on two strong poles, which did duty as shafts; and to these were fixed two wheels from one of the field-pieces, so that the carriage stood at about three feet from the ground. The sultan never for a moment quitted the place while Belford was at work, and was all delight at the progress which he made. Numbers of people came to see it, and many asked if that was the kind of vehicle in which our king and his wives used to ride. I was frequently puzzled how to answer; for, to say the truth, though Belford, considering his want of materials, had done wonders, it very much resembled one of those market-carts which are dragged about London by donkies. It soon, however, lost that appearance, being covered with a splendid hood of scarlet cloth, and having a bed laid inside of it. The shafts, body and wheels were painted green, though not very durably. The sultan had some verdigris, which he had brought from Tripoli; part of this was mixed with olive-oil, which, not drying, was scraped off, but the rest being prepared with vinegar formed a wash which answered his fondest expectations. The carriage was now as gaudy as the sultan could wish, and he was the sole and happy possessor of it; but a serious inconvenience soon presented itself: the coach was not large enough to allow a place for a driver, and his horses were too spirited to be trusted alone with such a small state-carriage. After devising many plans to remedy the defect, we found we had but one expedient left, which was to convert the vehicle into a gig. Accordingly, a jack-of-all-trades, who was a very ingenious fellow, made, by my directions, a set of harness tolerably well, except that the little pad on the horse's back weighed above fifty pounds. This, however, was soon reduced; but when the animal was put into the shafts, we discovered that the carriage was so low as to form an angle of at least twenty-five degrees with the ground. The sultan's head would, consequently, be about a foot lower than his feet; but as he intended, at any rate, sitting with his face to the horse, he thought nothing of this inconvenience.

His majesty indulged himself with many rides in the space near the castle, and, in one instance through the town, the coach being drawn by slaves. He, however, at last determined to venture a ride into the country with the horse to draw him. The animal being put into the vehicle, and led slowly through one little gate to where Mukni stood, made an attempt to run through another to his stable; the man who led him being frightened, suffered him to set off at full speed. The gate brought him up; one of the wheels knocking down the gate-post and part of the wall, but the carriage itself remained undamaged. This proof of its great strength quite charmed every one, and it was at last decided that a large saddle should be set on the horse, and that Baba Ishmael, the Turkish cannoneer, should ride him and direct the whole machine. Mukni, by way of showing his approbation of Belford's talents, gave him seven dollars, which he brought home to us in triumph, and which really saved us when on the very brink of starvation.—*Captain Lyon's Narrative of Travels in Northern Africa.*

NEWARK CASTLE.



[Interior of Newark Castle.]

This celebrated structure is understood to have been built, in the reign of King Stephen, by Alexander, Bishop of Lincoln, who also erected the castles of Banbury, in Oxfordshire, and Sleaford, in Lincolnshire. Henry of Huntingdon says, that this castle, emphatically called the *New-work*, gave name to the town. It seems, at that time, to have been considered somewhat improper for an ecclesiastic to busy himself in the erection of fortresses; and we are informed that Alexander founded two monasteries in the way of expiation. If the old writers are to be literally understood, the bishop was certainly the founder of the castle; but Dr. Stukely and Mr. Dickinson are disposed to contend that they are not to be understood as saying more than that Alexander enlarged, ornamented, and fortified a castle which previously existed. One of the principal reasons for this conclusion is that, even in its ruins, this castle exhibits at least two different styles of architecture,—one much anterior to the other, which was not likely to have been the case had the bishop built the structure from the foundation.

Be this as it may, the king did not at all approve of the taste which Alexander and other bishops displayed for building and strengthening castles; and when ultimately roused to act with vigour against the turbulent barons and factious ecclesiastics, he commenced with the latter, and either cajoled or forced them into submission, until he obtained possession, successively, of all their strongholds. Alexander was found to be very intractable, and was therefore, with his uncle, seized by the king, and detained in prison till all the fortresses of both were surrendered. The governor of Newark Castle refused to surrender it, unless ordered to do so by the bishop in person; but he did not persist in this determination when he received notice from the prelate that the king had made a vow that he (the bishop) should have neither meat nor drink till that fortress was surrendered.

During the troubles in the latter end of King John's reign, the castle was in the hands of the royal party, and it was not only gallantly defended, but the garrison frequently sallied out and wasted the lands of such of the insurgent barons as had estates in that neighbourhood. The Dauphin of France therefore thought it necessary to send a considerable force, under the command of Gilbert de Gaunt, whom he had created Earl of Lincoln, to take the castle. This was found to be no easy matter; and when Gilbert heard of the approach of the king at the head of a powerful army, he raised the siege and retired to London. Not long afterwards, the king actually arrived, but in no condition to fight the barons, had they been there; for on his march from Lynn through Lincolnshire, a great part of his men, together with all his treasure, carriages, baggage, and regalia,

> "Were in the washes all unwarily
> Devoured by the unexpected flood."

When he reached the castle, he was no less indisposed in body than distressed in mind, and died there on the 19th of October, 1216. Stowe adds:—"Immediately on the king's death, his servants, taking all that was about him, fled, not leaving so much of any thing (worth the carriage) as would cover his dead carcase."

When the French prince made terms with John's successor, the barons who had assisted the former being left in an unpleasant predicament, seized and fortified this castle with the view of making terms for themselves with the king. The Protector, the Earl of Pembroke, marched against them, and, after a siege of eight days, the fortress was surrendered to him, the besieged throwing themselves upon the king's mercy. Henry restored the castle to the see of Lincoln, which was then filled by Hugh de Wells, Chancellor of England.

After this nothing of historical interest occurs for several centuries in connexion with Newark Castle

It deserves to be mentioned, however, that Peter de la Mare, the Speaker of the House of Commons, was sent prisoner to this castle in the year 1376, at the instance of the Duke of Lancaster who, after the death of the Black Prince, influenced the royal councils. De la Mare is said to have seen through and opposed a design of the Duke to secure the succession of the Crown to himself and descendants, to the prejudice of the issue of his elder brother.

In the year 1530 Cardinal Wolsey lodged in the castle with a large retinue, while on his way to Southwell, where he spent great part of that summer. In Peck's 'Desiderata Curiosa,' this castle is mentioned among the other castles and royal mansions belonging to Queen Elizabeth. The fee of the constable is there stated at 6*l*. 13*s*. 4*d*. a-year, and that of the porter at 5*l*. King James I. lodged in the castle in the year 1602, on his way from Scotland to London. He was entertained by the corporation of the town, who, among other demonstrations of loyalty, presented him with a gilt cup. Here it was that he afforded to the English the first demonstration of those exalted notions of prerogative and kingly power which he had afterwards such unfortunate success in inculcating into the mind of his ill-fated son Charles. During Charles's reign, the castle again became of historical importance. The garrison of the castle and the inhabitants of the town adhered firmly to the royal interest throughout the protracted struggle between the King and the Parliament. It formed to the royal party a strong and most useful post, from whence many successful excursions were made; and it became an occasional place of retreat for the king himself. It was twice besieged without success by the Parliamentary forces under Sir John Meldrum; and when it surrendered in May, 1646, it was by the king's special command; and the governor, Lord Bellasis, obtained very advantageous and honourable conditions for himself and the garrison. After the surrender of the king, most of the royal garrisons were ordered by the Parliament to be dismantled, and this of Newark among the rest. Since that time it has been a ruin.

But though in ruins, it still presents an august appearance; the effect, however, is much impaired by the remains being applied to the purposes of coal-wharfs, stables, &c. The parts which remain entire are the south-west angle, the west wall, and a considerable portion of a square tower towards the north-west corner. The western wall, which is washed by the river, presents in one part of it three distinct stories, or tiers of apartments, especially towards the north-west angle. In the tower at the south-west angle, as well as in the whole west wall, from that to the centre tower inclusive, there is an appearance of greater antiquity than in any other part of the building now remaining; but, advancing from south to north, as soon as the eye arrives beyond the centre tower, a very manifest difference appears. Among the large Gothic windows in the principal remaining front, there is an excellent projecting window, which forms a perfect specimen of those called *bays* or *bowers* in ancient times. Underneath the great hall, which appears to have been one of the most recent parts of the edifice, there is a very curious arched vault or crypt, the roof of which is supported by a central range of pillars, and on the side of the vault towards the river are loop-holes and embrasures.

It is even now not difficult to discover the general outline of this once formidable fortress and princely habitation. It seems to have been a square of very great dimensions, and the number of its stories appears to have been at least five. Within the exterior walls nothing now remains; and the plot has long been used as a bowling green.

"The best view of this stupendous pile," says Dickinson, "is from the north-west, the direction of the road from York. Many circumstances contribute to deprive it of those qualities which constitute a very picturesque ruin—the want of wood, the extreme irregularity of its architecture, and above all, the contiguity of inferior erections for the purposes of habitation or the conveniences of commerce. Viewed, however, at the distance of a mile, whether considered as the termination of a vista, or as the first object on the approach to a town, it presents a grand and interesting scene to the attention of the traveller; in the words of the poet—

'Frowning majestic o'er the silvery wave*.'"

ENGLISH TRAVELLING IN THE EIGHTEENTH AND NINETEENTH CENTURIES.

[Concluded from No. 200.]

CONTEMPORARY books and periodical works enable us to obtain a tolerably accurate view of the travelling accommodations in this country at the commencement of the last century, and to trace the improvements which have since taken place. If, in following this account we have occasion to wonder at the exceedingly slow rate at which all travelling processes were conducted in the early portion of this period, we should not forget that the rate at which the stage-coaches then went, although it seem slow to us, who compare it with the easy and rapid travelling of a *subsequent* period, doubtless appeared very differently to those who could only compare it with a worse state of things which previously existed. If three miles an hour had before been the usual rate of travelling, an increase of speed to four miles must have seemed rapid travelling indeed. The present rate has been attained by gradual improvements; and when we consider the miserable state of the roads, the clumsiness of the vehicles, and the absence of any effectual regulations for preventing delays on the journey, we do not see much occasion to wonder at the state of things we shall now proceed to describe.

A French traveller, M. Misson, who was in this country in 1719, furnishes the first statement of which we shall avail ourselves. He says:—"They have several ways of travelling in England. The post is under a good regulation throughout, and the horses are better than those in France. There are coaches that go to all the great towns by moderate journies; and others, which they call *flying coaches*, that will travel twenty leagues a day and more, but these do not go to all places. They have no Messageries de Chevaux as in France; but you may hire horses for what time you please. The sea and the rivers also furnish their respective conveniencies for travelling. I say nothing of the waggons, which are great carts covered in, that lumber along, but very heavily; only a few poor old women make use of this vehicle."

Those coaches that went "moderate journies" were apparently those which travelled on the common roads, and the "flying coaches" were those which went on the best and most frequented roads,—perhaps on the new roads,—for it was about this time that the improvement of the public roads became an object of attention. One thing is certain, that these coaches which *flew* at the extraordinary rate of between four and five miles an hour were not very common, as we find this always mentioned as a matter of admiration; and, at a much later date, the speed of the common stage-coaches could hardly have reached four miles.

Defoe doubtless has in view one of the "flying coaches" when, in his 'Tour through Great Britain,' he mentions among the recommendations of Ipswich that it possessed the advantage of an easy communica-

* History and Antiquities of the Town of Newark.

tion with the metropolis, there being a fast coach that went from thence to London in one day. It is not certain how many hours a coach-day contained. It probably signifies, in this and many other instances, the whole period of day-light, with some intervals of refreshment; although those that did not pretend to be flying coaches were content to be on the road about twelve hours in the twenty-four. Our impression is, that the flying coaches at this period never reached five miles an hour, and that the common coaches rarely reached, and perhaps never exceeded, four miles. In this early part of the century, no stage-coaches travelled by night: in time they began to avail themselves of moonlight nights, and ultimately, as at present, they went both by night and by day. At first, stage-coaches were interdicted from travelling on Sundays; but, about the middle of the century, a limited number were licensed to do so on some particular roads, and in the end all restriction was withdrawn.

In the year 1725 a work was published by Mrs. Manley, with the title of 'A Stage-coach Journey from London to Exeter.' Persons may now be whirled from one of these cities to the other in less than twenty-four hours; but it appears, from this production, that passengers were then four days on the road, and that about forty-eight hours were employed in actual riding. In point of fact, the journey took five days in this instance, because a Sunday intervened, on which day, as the stage-coaches did not travel, the passengers were detained at Salisbury.

It was summer; and Mrs. Manley, who complains greatly of the hardships and fatigues of the journey, mentions that the passengers were roused every morning at two o'clock, left the inn at three, and about the same hour in the afternoon arrived at the end of the day's journey. When the passengers left the inn to enter the coach, a crowd of beggars were, at this early hour, found waiting for alms about the coach, "and would never leave it unblessed."

The company seemed to be allowed a pause at ten in the forenoon to take dinner. The lady appears very little satisfied with the fare: she says,—"They most unmercifully set us down to dinner, at ten o'clock, upon a great leg of mutton. It is the custom of these dining-stages to prepare one day beef, and another our present fare. It is ready against the coach comes; and, though you should have a perfect antipathy, there is no remedy but fasting. The coachman begs your pardon; he would not stay dressing a dinner for the king, (God bless him!) should he travel in his coach."

The mystery of driving four-in-hand was not known in those days. When more than two horses were employed, the leader, or one of the leaders, was ridden by a postilion, as no coachman professed to control more horses than those fastened to the shaft. This custom was retained much longer than some other early usages which occur in the history of stage-coaches. It appears that by 1740 stage-coaches had begun to travel by moonlight, at least on some roads. Fielding's 'Joseph Andrews' was published about that time; and the hero, after being robbed and left for dead by footpads in the night, is discovered by a stage-coach. "He just began to recover his senses as a stage-coach came by. *The postilion, hearing a man's groans, stopped his horses,* and told the coachman." The common people still continued, in general, to use the waggons, unless for the sake of the greater expedition they ventured upon the dangerous roof of the carriage, or nestled in the basket behind. Those who have read the work we have just mentioned will remember the horror of Mrs. Graveairs at the idea of admitting "a fellow in livery" inside the coach, notwithstanding the disabled condition in which he appeared.

The 'Tales of an Antiquary,' published in 1828, contain an excellent description of stage-coaches and stage-coach travelling about the time of Hogarth's picture. We adopt the account, in a somewhat abridged form, without hesitation, having been able, from other sources, to satisfy ourselves of the accuracy of the details.

"In my own young days, stage-coaches were constructed principally of a dull black leather, thickly studded, by way of ornament, with black, broad-headed nails, tracing out the panels; in the upper tier of which were four oval windows, with heavy, red, wooden frames, or leathern curtains. Upon the doors, also, were displayed, in large characters, the names of the places whence the coach started, and whither it went, stated in quaint and antique language. The vehicles themselves varied in shape. Sometimes they were like a distiller's vat, somewhat flattened, and hung equally balanced between the immense front and back springs. In other instances, they resembled a violoncello-case, which was, past all comparison, the most fashionable form; and then they hung in a more genteel posture, namely, inclining on to the back springs, and giving to those who sat within the appearance of a stiff Guy Faux uneasily seated. The roofs of the coaches, in most cases, rose into a swelling curve, which was sometimes surrounded by a high iron guard. The coachman and the guard, who always held his carbine ready cocked upon his knee, then sat together; not, as at present, upon a close, compact, varnished seat, but over a very long and narrow boot, which passed under a large spreading hammer-cloth, hanging down on all sides, and finished with a flowing and most luxuriant fringe. Behind the coach was the immense basket *, stretching far and wide beyond the body, to which it was attached by long iron bars or supports passing beneath it; though even these seemed scarcely equal to the enormous weight with which they were frequently loaded. These baskets were, however, never great favourites, although their difference of price caused them to be frequently well filled."

"The wheels of these old carriages were large, massive, ill-formed, and usually of a red colour; and the three horses that were affixed to the whole machine—the foremost of which was helped onward by carrying a huge, long-legged elf of a postilion, dressed in a cocked hat, with a large green and gold riding-coat,—were all so far parted from it by the great length of their traces, that it was with no little difficulty that the poor animals dragged their unwieldy burden along the road. It groaned and creaked at every fresh tug which they gave it, as a ship rocking, or beating up, through a heavy sea strains all her timbers, with a low, moaning sound, as she drives over the contending waves."

In the course of the next quarter of a century, the roads and stage-coach travelling underwent very considerable improvement. The vehicles themselves indeed do not appear to have been much improved, but they had been brought to act with more regularity and system than before. A French traveller, M. Grosley, who was in this country in 1765, gives the following account of the manner in which he travelled from Dover to London. It will, however, be observed that the vehicle in which he travelled was not the *common* stage-coach, but the "flying-coach," which we have already mentioned.

"The great multitude of passengers with which Dover was crowded, afforded a reason for dispensing with a law of the police, by which public carriages in England are forbidden to travel on a Sunday. I myself set out on Sunday with seven more passengers in two carriages, called 'flying-machines.' These vehicles, which were drawn by six horses, go twenty-eight leagues in a day, from Dover to London, for a

* See the 'Country Inn Yard,' after Hogarth, in No. 198.

single *guinea*. Servants are entitled to a place for half that money, either behind the coach or upon the coach-box, which has three places. The coachmen, whom we changed every time with our horses, were lusty, well-made men, dressed in good cloth. When they set off, or were for animating their horses, I heard a sort of periodical noise, resembling that of a stick striking against the nave of the fore-wheel. I have since discovered that it is customary with the English coachmen to give their horses the signal for setting off by making this noise, and by beating their stools with their feet in cadence: they likewise use the same signal to make them mend their pace. The coach-whip, which is nothing else but a long piece of whalebone, covered with hair, and with a small cord at the end of it, is no more in their hands than the fan is in winter in the hands of a lady: it only serves them to make a show, as their horses scarce ever feel it."

The overturning of stage-coaches was a far more common accident about the middle of the last century than at present. In the 'Gentleman's Magazine' for 1771, a correspondent points out the causes of these accidents, and proposes remedies. The first and most manifest cause was the great height of the body of the coach from the ground, with the number of the passengers who sat upon the top. He wishes that riding on the top could be forbidden; but fears in that case the coach-owners would raise the inside fares, which would preclude many from travelling by coach. Another cause was the excessive roundness of the turnpike roads, which was often so great as to make it dangerous for even a post-chaise to turn out of the middle of the road when it met another carriage, the road being so very steep on each side. He proposes, as a remedy, that it should be made imperative on coach-proprietors to lengthen the axletree, so that the wheels, instead of being, as then, only four feet eight inches distant from each other, on the outside, might be distant five feet eight inches. It would not be easy for such a coach to overturn; and as this alteration would allow the body of the coach to be enlarged so as to contain six passengers, the price of inside places would sink, and travelling become in general somewhat cheaper.

The demand for outside places does not appear to have diminished. In 1775 we find the 'Annual Register' stating that the stage-coaches of the time generally drove with eight inside and often ten outside passengers each; and that there were then of these vehicles, flys, machines, and diligences, upwards of 400; and of other four-wheeled carriages 17,000.

It is evident that such vehicles as those represented in Hogarth could not accommodate *ten* outside passengers, or indeed eight inside ones. The vehicles must therefore have been enlarged, and additional accommodation provided on the outside. Indeed we may at this point run on to 1813, when we find a correspondent of the 'Gentleman's Magazine' whose memory seems to go back as far as the point to which we have brought the account, if not further, stating, in the way of complaint, the alterations which had taken place within his recollection. We abridge this curious statement, which will suitably conclude this article, as no important alterations, except in reduced fares and increase of speed, have taken place since the date of this old gentleman's querulous communication. He says that, of late years a great revolution had taken place in journeyings by stage-coaches, and which had produced nearly the whole of those accidents which were attributed to the coachmen. This was the fashion of preferring the outside to the inside of coaches. If this fashion continued, he had no doubt that posterity would inquire what the inside of a coach was made for. It had already come to be considered as a receptacle specially appropriated to the effeminate, the sick, or the aged. This demand for outside places had produced two results; one was a rise in the price of such places, and the other, increased accommodation before, behind, and at top, for the increased number of persons who chose to travel in that way. People seemed to be quite unconscious that there was any more danger by riding with eighteen outsides, than in walking with an equal number of persons on a grass plot; though nothing could be clearer than that a vehicle thus overloaded at top, and comparatively empty within, was in great danger of being overturned.

Stage-coach passengers, he continues, learnt this preference from people of fashion, who at that period exhibited a decided preference for riding on the outside of their private carriages. It had necessarily altered the relative estimation in which inside and outside passengers were held, and had abolished the order of precedency formerly observed at country inns. There, in former times, while the *insides* were shown into a handsome dining parlour, the *outsides* were referred to the kitchen, or had their meal in some inferior apartment, and were considered as only a small degree above *waggon passengers*. But now, were an innkeeper to judge thus of stage-coach outsides, what dreadful blunders would he not make—what insults would he not offer? Were he to estimate upon the old scale, he might shut up house in a week.

The old gentleman proceeds to speak with some indignation of the disuse of legs engendered by the increased facilities for riding. He says,—"The time was, Sir, when from my country-house at the bottom of Gray's Inn Lane, I could, on a Sunday morning, from five o'clock or sooner, see hundreds beginning their journey on foot to places eight or ten miles distant; but now the same class of people, and of the same age, are mounted aloft with a dozen-and-a-half of lazy souls like themselves, and confine their walks to their friends' gardens—30 feet by 20, including a pond. Nay, what shocks me more, when I reflect on past times, is, to see even the Islington stages, at three and four o'clock in the afternoon, loaded inside and outside with hale, hearty, stout young brokers, Excise and Bank clerks, and other young gentlemen, who can learn only from their fathers for what purpose legs were given them."

What would this "Old Insides," as he calls himself, have said about omnibuses? He recommends, indeed, that insides in public conveyances should in future be dispensed with; and that vehicles should be constructed on the principle of calf-carts, capable of holding thirty or forty persons. From the tone of his complaints, it appears that this old person could hardly have been prepared to expect that nearly the reverse of what he proposes would be carried into effect. We have now vehicles without any outside passengers, yet providing accommodation inside for fourteen persons.

Thinking.—Thinking leads man to knowledge. He may see and hear, and read and learn, and as much as he please: he will never know any of it, except that which he has thought over, that which by thinking he has made the property of his mind. It is then saying too much if I say, that man by thinking only becomes truly man. Take away thought from man's life, and what remains?—*Paternal Instructions, in Moral Comments;* a bequest from Pestalozzi to his pupils.

*** The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

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THE SHADDOCK TREE.



[Shaddock-Tree.]

THE Shaddock (*Citrus decumana*) is one of the four distinct or leading species into which the orange tribe of plants is divided. The shaddock is larger than the orange, both in the tree and the fruit. The tree has spreading prickly branches: the leaves are egg-shaped and rather acute, and the leaf-stalks are furnished with remarkably large heart-shaped wings: the flowers are white, with reflexed petals, and very sweet-scented. The fruit, which is from two and a half to eight inches in diameter, is spheroidal, of a greenish yellow colour, and has twelve or more cells, containing, according to the variety, either a red or white pulp. The juice is sweet in some varieties, and acid in others; it is rather insipid, but is excellent for quenching thirst. The rind, which is of a disagreeable bitter flavour, is very thick, in consequence of which the fruit can be much longer preserved during sea-voyages than that of any other species of citrus.

The shaddock is a native of China, and the neighbouring countries, where the name of "sweet ball" is given to it. Its common name is derived from Shaddock, who brought it from China to

Indies. It has, however, been neglected there, and is now but seldom entitled to its oriental name of sweet-ball. Instead of propagating the shaddock by budding, as is done in China, and which is the only way it can be improved, or even kept from degenerating, they have reared it from seed, and have in consequence only obtained a harsh and sour sort of little value. The shaddock came to England from the West Indies, and was cultivated by Miller in 1739. In the West it is certainly the least valuable of the genus to which it belongs; and for the attention which it has received it is chiefly indebted to the showiness both of the tree and the fruit. In its native country the fruit attains a much greater size than in the West. Thunberg says that it is commonly of the size of a child's head in Japan; Dr. Sickler describes it as weighing fourteen pounds, and as having a diameter of from seven to eight inches. Their accounts are confirmed by Bishop Heber, who thus describes the shaddock of India:—"The shaddock resembles a melon externally, but it is in fact a vast orange, with a rind of two inches thick, the pulp much less juicy than a common orange, and with rather a bitter flavour, certainly a fruit which would be little valued in England, but which in this burning weather I thought rather pleasant and refreshing*." The shaddock has been recently sold in London under the name of "forbidden fruit."

MARRIAGES IN RUSSIA.

Russia is one of those countries in which the parties more immediately interested have little to do in the formation of matrimonial connexions. Marriages are generally negotiated through the intervention of friends; and the parents, of the female in particular, usually decide who is to be her husband, with little reference to her own inclinations. This custom probably proceeds, in a great measure, from the early age at which marriages are commonly contracted in this country; for it seems to be thought that young people may be trusted with the important relations of married life before they are fit to be trusted with the selection of the person who is to form the centre of those relations. The consequences of such a system are often very unhappy, although less frequently so, perhaps, than might happen in countries where parents relinquish, sooner than in Russia, all control over their children. It is among the lower classes that very early marriages are the most common; and from the peculiar situation of the Russian peasant, and the state of the country in general, such marriages cannot be considered so imprudent, in a worldly point of view, as they would be in a country so highly civilized and so populous as our own. Housekeeping is attended with little expense, and the young pair commonly live with the parents of the husband until the united families become too large to be accommodated under one roof. It is a rule among the common people to avoid becoming dependant on their children; and therefore the parents—or the surviving parent, even if the female—retain the management of the household entirely in their own hands till death. The laws of the country, indeed, are more than usually favourable to widows and mothers.

In the higher and middle classes of society,—if we may be allowed, for a moment, to speak of a middle class in Russia—the wife does not fill a position which offers any marked difference from that which wives in the corresponding ranks of life generally occupy in the other nations of Europe. But the wives of the peasantry are much less favourably situated than those of a similar station in this country. The behaviour of the husbands may generally be characterised as rough and austere, according to our notions. The females work hard, and are commonly obliged to be quiet spectators of the intemperance and irregularities of their husbands, seldom venturing to expostulate or complain. To this, however, there are many and beautiful exceptions; and, judging from his personal impressions, the writer considers that as much domestic happiness is often realised among the lower classes in Russia as a fair consideration of the condition of the people authorised him to expect.

The betrothing, which is performed with ecclesiastical rites, and is itself indissoluble, generally takes place eight days previous to the marriage. During this interval, the bride is only visited by the bridegroom, and by the girls of her acquaintance, who exert themselves to amuse her, particularly by singing. On the day previous to the nuptials, these females conduct the bride to the bath, and there spend much time in dressing and plaiting her hair, all the while singing songs descriptive of the happiness of married life.

The following account of the actual marriage ceremony, between a couple in good circumstances, is principally derived from a detailed account given in Dr. Granville's 'St. Petersburgh.'

At the appointed time, a large number of friends of the parties having previously assembled in the church, the priest, attired in rich vestments, and attended by a deacon, proceeded down the church from the altar to the door, where he received the candidates for matrimony. After he had delivered to each a lighted taper, and made the sign of the cross three times on their foreheads, he conducted them to the upper part of the nave. The bride was attended by young ladies in splendid dresses, and incense was scattered before them as they advanced. The priest, as he went, recited a litany, in which the choristers assisted, and, at its conclusion, halted before a table, on which the rings were deposited: then, turning towards the altar, with the bride and bridegroom behind him, he repeated a short and very impressive prayer, or invocation. After this, he turned round to the couple and blessed them; and then taking the rings from the table, gave one to each, proclaiming, in a loud voice, that they stood married to each other, "now and for ever, even unto ages of ages." This declaration he repeated three times, the bride and bridegroom exchanging rings at each declaration. The rings were then again surrendered to the priest, who, after having crossed the foreheads of the young couple with them, placed them on the fore-finger of the right hand of each. He then again turned towards the altar and read another impressive part of the service, in which allusion is made to all the passages of the Bible in which a ring is mentioned as the symbol of union, honour, and power.

After this, the priest took both the parties by the hand and led them towards a silken carpet, which lay spread upon the ground. This is, to the mass of the spectators, a moment of the greatest interest; for it is firmly believed that the party which first steps upon the carpet will have the mastery over the other throughout life. "In the present instance," says Dr. Granville, "the bride secured possession of this prospective advantage with modest forwardness."

Two silver imperial crowns were then produced by a layman and received by the priest, who, after blessing the bridegroom, placed one of these ornaments upon his head; the other was merely held over the bride's head, in order that the superstructure raised by a fashionable hair-dresser of St. Petersburgh might not be deranged.

After the crowning, a cup was brought to the priest, who, after drinking from it himself, gave it to the bridegroom, who took three sips and then delivered it to the bride, by whom the same ceremony was repeated. After a short pause, other prayers were recited, and, these being concluded, the priest took the pair by the

* Narrative of a Journey, vol. i. p. 3.

hand and walked them three times around the desk, reciting some sentences. Then, taking off the bridegroom's crown, he said,—"Be thou magnified, O bridegroom, as Abraham! Be thou blessed as Isaac, and multiplied as Jacob, walking in peace, and performing the commandments of God in righteousness."

In removing the bride's crown, he said,—"And be thou magnified, O bride, as Sarah! Be thou joyful as Rebecca, and multiplied as Rachael; delighting in thine own husband, and observing the bounds of the law, according to the good pleasure of God."

After this, the tapers were extinguished, and taken from the bride and bridegroom, who were then dismissed by the priest with his blessing, and received the congratulations of the company and saluted each other. Dancing and feasting continues for three days after the wedding, and on the eighth day the parties again repair to the church, when the priest performs the ceremony of "dissolving the crowns," with appropriate prayers, in allusion to the rites of matrimony.

In furnishing the account which we have thus condensed, Dr. Granville describes what he actually witnessed, and considers that other accounts, so far as they differ from this, are "exaggerated or fanciful." This is one of those hasty statements by which travellers, who have witnessed an observance in only one aspect, perplex their readers by impugning the statements of others, who may have seen the same thing, and correctly described it, in another of its forms. The wedding at which this author was present took place in that class of society which the soonest relinquishes those peculiar usages that form the most prominent external characteristics of a nation. An earlier witness of a marriage in the same class of society may have seen peculiarities which do not at present come under notice, but which are still to be found among the lower classes,—the mass of the nation,—among whom the beard and the peculiar national dress is still retained. This explanation is worth the few lines we have given to it, because its application goes much beyond the present instance, or the present subject.

Taking the above, therefore, as a correct representation of the marriage observances in that part of the population which has already relinquished many of the national peculiarities, we now recur to less recent sources of information for an account of some observances which were formerly in use even in this class of society, and most, if not all, of which are, to our own knowledge, still retained among the humbler classes of the people.

The evening previous to the wedding, the female, properly attended, went to the bridegroom's house, taking with her bridal apparel and a bedstead. This article was always provided by the bride, and, in proportion to the means of her family, was usually an article of some cost. The woman's mother, and female friends or servants, remained with her all that night; and the bridegroom was bound to keep himself out of the way. This usage is mentioned by Dr. Giles Fletcher, who was in the country in the reign of Elizabeth, and whose observations are recorded in 'Purchas his Pilgrimes.' It probably arose from the very natural desire of the bride to ascertain the accommodations of his future habitation. It still exists in a form more or less modified.

The same may be said of another usage, described by the same writer in the quaint dialect of the time:—"After the ceremony the bride cometh to the bridegroom and knocketh her head upon his shoe, in token of her subjection and obedience; and the bridegroom again casteth the lap of his gown or upper garment over the bride, in token of his duty to protect and cherish her." The actual prostration is now, we believe, generally commuted into a motion towards it.

The ceremony of the carpet, mentioned by Dr. Granville, is apparently a softened form of the usage thus described by Anthony Jenkinson who was in Russia about the middle of the sixteenth century. He is describing what happens in the church after the pair have been actually united.

"They begin to drink, and first the woman drinketh to the man, and when he hath drunk, he letteth the cup fall to the ground, hasting immediately to tread upon it; and so doth she, and whether of them tread first upon it must have the victory and be master at all times after, which commonly happeneth to the man, for he is readiest to set his foot upon it because he letteth it fall himself."

When they leave the church, it is the most orthodox practice for the parties to separate and go to the houses of the respective parents, where they respectively entertain their personal friends; but it has now become increasingly frequent for both to go and spend the day at the house of the bride's parents. The Russian church does not require the presence of the parents at the marriage of their children. They remain to receive them when they come home, and, as they approach, throw corn out of the windows upon them, "in token," says Giles Fletcher, "of plenty and fruitfulness to be with them ever after." It is now more usual, however, for the father of the bride to present the young couple, on their return, with bread and salt, accompanied with a fervent wish that they may never know the want of either. In the evening, the bride is conducted to the house of her husband, or of his father; and an old regulation, not now so much insisted upon as formerly, rendered it indecorous for her to speak, except a few words at table, during the first three days of her married life.

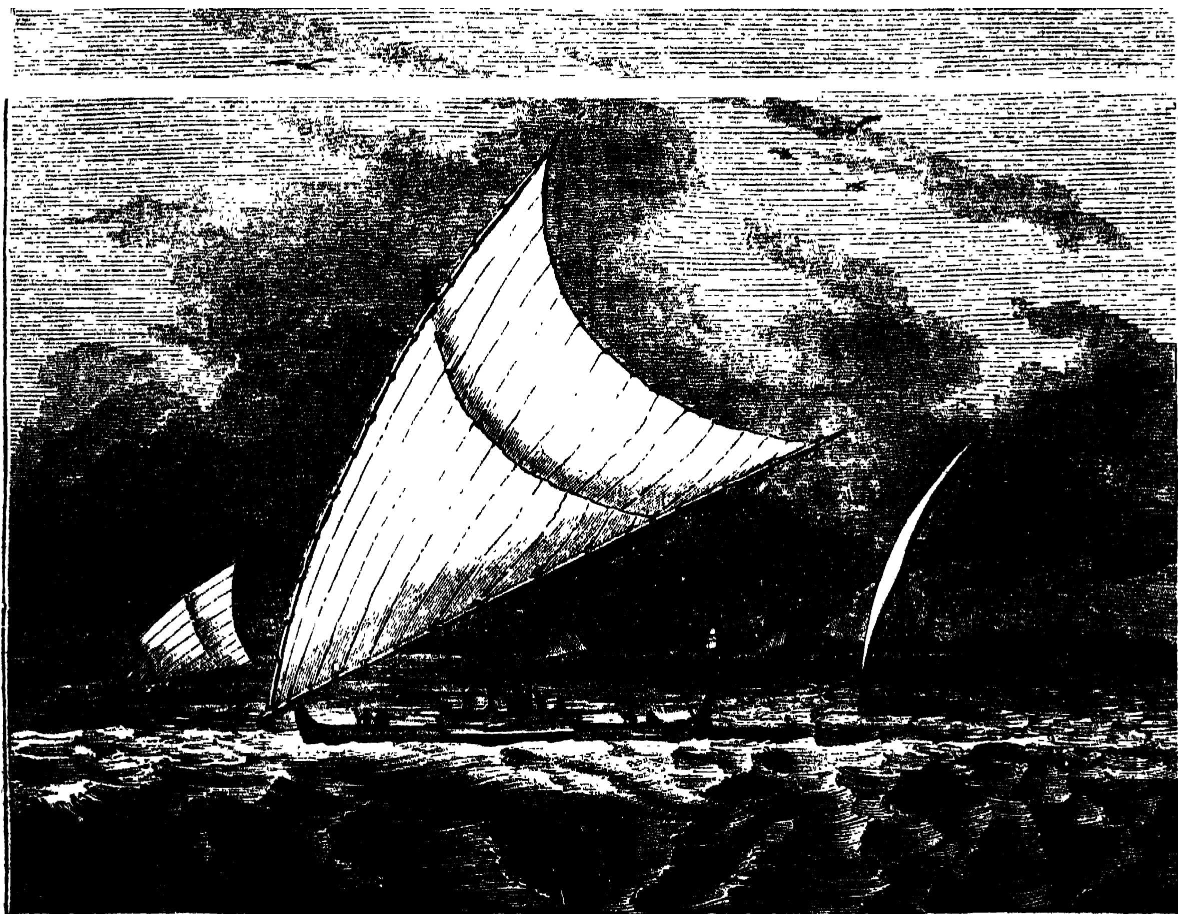
The custom of making presents to a new-married pair is carried to a considerable extent in Russia; and, when the parents are in good circumstances, and have large connexions, the bride is sometimes so loaded with gifts that a large room is filled with them. These benefactions are, for the time, exhibited in a collected form, with considerable pride.

It only remains to add, that second and third marriages are not much approved in Russia, and fourth marriages are entirely forbidden.

Character of a Sot.—A sot has found out a way to renew, not only his youth, but his childhood, by being stewed, like Æson, in liquor; much better than the virtuoso's way of making old dogs young again: for he is a child again at second hand, never the worse for the wearing, but as purely, fresh, simple, and weak, as he was at first. He has stupified his senses by living in a moist climate. * * * He measures his time by glasses of wine, as the ancients did by water-glasses; he is like a statue placed in a moist air; all the lineaments of humanity are mouldered away, and there is nothing left of him but the rude lump of the shape of a man, and no one part entire. He has drowned himself in a butt of wine, as the Duke of Clarence was served by his brother. He has swallowed his humanity, and drunk himself into a beast. He is like a spring-tide: when he is drunk to his high-water mark, he swells and looks big, runs against the stream, and overflows everything that stands in his way; but, when the drink within him is at ebb, he shrinks within his banks, and falls so low and shallow, that cattle may pass over him.—*Samuel Butler.*

The Red Mullet.—The generic term, *Mullus*, by which this fish is distinguished, is said to have reference to the scarlet colour of the sandal worn by the Roman consuls and emperors, which was called *mulleus.* The mullet was held in extraordinary estimation by the Romans. One of [illegible] pounds' weight is recorded to have produced a sum [illegible] 48*l.*; one still larger 64*l.*; and even 240*l.* were [illegible] three of very unusual size, procured on the same [illegible] repast of more than usual magnificence.—*Yarrell's Fishes.*

THE PROA.



[Indian Proas.]

The vessel represented in the engraving belongs to a class peculiar to the East Indian seas, more especially to the cluster called the Ladrones, and other adjacent islands. As the term *proa* in Spanish is equivalent to the English *prow*, both signifying the head or fore part of a ship, the primary expression from which they are derived conveying the idea of "that which projects or stretches forward," it is probable that the Spaniards bestowed the name *proa* on these vessels from their singular construction. Both bow and stern are alike, so that, by only shifting the sail, the vessel can sail backward or forward, without putting about.

Magellan, who discovered the archipelago to which he gave the name of *Islas de los Ladrones*, or islands of the thieves, because the natives evinced a pilfering propensity in their intercourse with his people, simply remarks concerning the boats of the islanders, that their canoes are oddly contrived and patched up, *yet sail with wonderful rapidity*. As the name *proa* was applied of course subsequently to the discovery of the islands, the inference is natural enough that it was so applied during the early intercourse of the Spaniards with the natives.

A particular description of the proa is given by the writer or writers of 'Anson's Voyage round the World.' Speaking of the Indians who inhabit the Ladrones, it is said, that "they are no ways defective in understanding, for their flying proa, in particular, which has been for ages the only vessel used by them, is so singular and extraordinary an invention, that it would do honour to any nation however dexterous and acute. Whether we consider its aptitude to the particular navigation of these islands, or the uncommon simplicity and ingenuity of its fabric and contrivance, or the extraordinary velocity with which it moves, we shall find it worthy of our admiration, and meriting a place amongst the mechanical productions of the most civilized nations, where arts and sciences have most eminently flourished.

"The name of *flying proa* given to these vessels is owing to the swiftness with which they sail. Of this the Spaniards assert such stories as appear altogether incredible to those who have never seen these vessels move. However, from some rude estimates made, by our people, of the velocity with which they crossed the horizon at a distance whilst we lay at Tinian*, I cannot help believing that with a brisk trade-wind they will run near *twenty miles an hour*. Which, though greatly short of what the Spaniards report of them, is yet a prodigious degree of swiftness.

"The construction of the proa is a direct contradiction to the practice of the rest of mankind. For as the rest of the world make the head of their vessels different from the stern, but the two sides alike, the proa, on the contrary, has her head and stern exactly alike, but her two sides very different; the side, intended to be always the lee-side, being flat; and the windward-side made rounding, in the manner of other vessels. And to prevent her oversetting, which, from her small breadth and the straight run of her leeward-side, would, without this precaution, infallibly happen, there is a frame laid out from her to windward, to the end of which is fastened a log, fashioned into the shape of a small boat, and made hollow. The weight of the frame is intended to balance the proa, and the small boat is

* Tinian, one of the Ladrones or Marian islands, is celebrated from the pleasing description given in Anson's 'Voyage' of its salubrity and agreeableness,—but the description is exaggerated, arising doubtless from the rapid recovery of the crew, previously exhausted and almost worn out.

by its buoyancy (as it is always in the water) to prevent her oversetting to windward; and this frame is usually called an outrigger. The body of the proa (at least of that we took) is made of two pieces joined endways, and sewed together with bark, for there is no iron used about her. She is about two inches thick at the bottom, which at the gunwale is reduced to less than one.

"The proa generally carries six or seven Indians; two of which are placed in the head and stern, who steer the vessel alternately with a paddle, according to the tack she goes on, he in the stern being the steersman; the other Indians are employed either in baling out the water which she accidentally ships, or in setting and trimming the sail." From this description of these vessels it is sufficiently obvious how dexterously they are fitted for ranging the collection of islands called the Ladrones. For as these islands lie nearly north and south of each other, and are all within the limits of the trade-wind, the proas, by sailing most excellently on a wind, and with either end foremost, can run from one of these islands to the other and back again, only by shifting the sail, without ever putting about; and by the flatness of their lee-side, and their small breadth, they are capable of lying much nearer the wind than any other vessel hitherto known. Our engraving has been made from a drawing by W. Westall, A.R.A., who, when he took the sketch from the deck of Captain Flinders's ship, was surprised to see these proas sail right round the vessel in which he was, although that was sailing at a very rapid rate.

The ingenuity of these islanders, as shown in the construction of these vessels, has enabled them to take advantage of their position on the surface of the globe. Sir George Staunton, in his account of 'Lord Macartney's Embassy to China,' observes, that "the Ladrones, and clusters of islands between them and the southern extremity of China, are so near to each other and to the main land, and are also so broken, as well as so irregular in their form and position, as to appear like fragments disjointed from the Continent, and from each other, at remote periods, by the successive violence of mighty torrents, or of some sudden convulsions of nature." Thus the roughness of the coasts of these islands, on which the waves break with fury, combined with their position with respect to the trade-winds, drove the natives to verify the adage that "necessity is the mother of invention." Their pilfering habits, which annoyed Magellan (as well as subsequent navigators), and obtained for them the odious appellation of Ladrones (thieves or robbers), arose probably from the very same liveliness of fancy and curiosity which led to their improvement on the ruder and perhaps original form of the canoe, as seen at other places. These islands are also termed Marian Islands, in honour of Mary Anne of Austria, queen of Philip IV. of Spain, and mother of Charles II., who, as regent, during the minority of her son, sent jesuits and soldiers to convert the natives. They were also termed "Islas de las Velas" (Islands of the Sails), from the great number of proas which usually put out to meet any ship which might anchor there.

MINERAL KINGDOM.—Section XXXVIII.

Silver.

This metal, when free from mixture, is of a pure, brilliant white colour, and perfectly free from taste or smell. It is so soft as to be easily scratched by copper; but it is nevertheless capable of receiving a high polish by burnishing, inferior only to steel. But polished silver, when exposed to the air, soon becomes tarnished, as is well known: this depends, of course, upon the nature of the atmosphere, and takes place most quickly where coal is burned, or when, by any other means, sulphur gets dissolved in the air: for the tarnish of silver is not an oxide of the metal, but a sulphuret. This is well illustrated when we eat eggs with ungilt silver spoons, for sulphur is contained in the white of an egg; and mustard-spoons are often tarnished, because mustard is frequently adulterated with flowers of sulphur: the effect is, perhaps, also caused by the sulphur which is a constituent part of that peculiar principle contained in mustard, called *sinapisin*. This liability to be blackened by sulphureous vapours renders silver unfit for architectural decorations, or for any purposes where it cannot be readily cleaned. Its specific gravity, when hammered, is 10·51; and it is therefore somewhat lighter than lead. It is considerably elastic, and when hardened by an alloy is highly sonorous. In point of malleability it is next to gold, and is capable of being beat into leaves of $\frac{1}{100,000}$th part of an inch in thickness. It is also, after gold, the most ductile of the metals, for it may be drawn into wire more slender than the finest human hair, and in this way a single grain may be stretched out to 400 feet. In tenacity it is inferior to iron, copper, and platinum wire of the tenth part of an inch in diameter supporting a weight of 240 lbs. It is fusible in a moderately intense red heat, corresponding, according to Mr. Daniel, to 1873° of Fahrenheit's scale: a plate about the dimensions of very thin pasteboard will scarcely support the full heat of a very brisk fire in a common grate, and when intensely heated it is volatilized. It is what is called a perfect metal, that is, it does not form an oxide by exposure to air and moisture; but when it is fused in an open vessel, it absorbs oxygen in considerable quantity, amounting sometimes to twenty-two times its volume; but it parts with the whole of it again in the act of becoming solid, and Gay Lussac attributes to that circumstance the peculiarly beautiful aspect of granulated silver. If silver in the form of leaf or fine wire be intensely heated by means of electricity, galvanism, or the oxy-hydrogen blowpipe, it burns with vivid sparks, and with an exquisite green-coloured flame, and gives out a dense grey smoke.

Silver is found not only native, that is, in the pure state, but in combination with other substances, forming a great variety of ores. When pure it is sometimes met with in regularly-formed crystals, and it traverses rocks in the form of veins of various dimensions, and is found in insulated masses in rocks. These last are sometimes of great size; as for instance, in one of the mines of Peru a lump of pure silver was discovered which weighed 800 lbs. It is related that in the seventeenth century a mass of native silver was found at Kongsberg, in Norway, which weighed 560 lbs. The mines of Freiberg in Saxony have often produced masses of 100 lbs. weight. There are about twenty-five different varieties of silver ore; the most common are the following:—*Sulphuret of silver*, consisting of about 80 per cent. of the metal, and 20 of sulphur; *red silver ore*, containing about 57 per cent. of silver, 15 of sulphur, 16 of antimony, and 12 of oxygen; *muriate of silver*, containing 68 per cent. of silver, 26 of muriatic acid, and 6 of iron; and *antimonial silver*, consisting of about 84 per cent. of silver, and sixteen of antimony. But a large proportion of the silver brought to market is obtained from the ores of other metals, in which silver is a subordinate ingredient, but which, on account of its great value, it is profitable to extract even when occurring in minute quantity. Thus the silver in lead ore is sometimes separated with profit when it exists only to the extent of eight ounces in the ton of lead; which is only one part in 1481, or a single grain of silver in more than half-a-pound of lead. The ore called galena contains,

in general), more silver than any other lead ore. The lead formerly found on Brunghill Moor in the district of Craven, in Yorkshire, contained about 230 ounces of silver in the ton, and that of the mines near Plinlimmon, in Cardiganshire, worked in the reign of Charles I., yielded eighty ounces in the ton. The average proportion contained in the lead of the north of England is twelve ounces to the ton.

The silver ores, properly so called, are found chiefly in veins which traverse the primary and the older of the secondary stratified rocks, more especially the former, and also the unstratified rocks, such as granite and porphyry, which are associated with these. The rich mine of Guanaxuato in Mexico, and the still more celebrated one of Potosi, on the confines of Peru, are situated in primary slate. Among the transition strata, limestone is the richest in silver, but grauwacke is also very productive; the rich mines of Zacatecas in Mexico are in that rock. The celebrated mines of Real Catorce, and others near Zimapan, in Mexico, and those of Pasco and Hualgayoc, in Peru, are in Alpine limestone, supposed to correspond in geological age to the magnesian limestone of England, (L, diagram in No. 51) which rests upon a conglomerate or pudding-stone rock; and in the district of Mexico, on the western slope of the Cordilleras, there are mines in a still more modern secondary deposit, one supposed to be analogous in point of age to the Jura oolite limestone (I), and the veins are more productive in that rock than in the primary strata on which it reposes. Among the unstratified rocks, the porphyries of Mexico are in general very rich in silver, and a vein of it occurs in the variety of granite called syenite at Comanja, in the district of Guanaxuato. In Europe, the workings for silver are sometimes, as in Saxony, in a multitude of slender veins; sometimes, as at Clausthal in the Hartz Mountains, and at Chemnitz in Hungary, in a small number of spots, where the veins are of great dimensions. In the three richest districts of Mexico, viz., Guanaxuato, Zacatecas, and Real del Monte, they have only one principal vein, worked in different places. The vein of Guanaxuato is of extraordinary dimensions, from 130 to 148 feet wide, and it has been traced and worked along an extent of nearly eight miles. It is a remarkable circumstance that while gold is so constantly found in grains in alluvial soils, *stream-silver* is almost unknown. Silver is not destructible, in its native state, by exposure to air and moisture, and that source of the disappearance of the ores of the baser metals cannot apply in this case, and native silver is of sufficiently common occurrence to have afforded lumps and grains when the rocks containing it were broken down, as seems to have taken place as regards gold. The inferior value of silver would not pay the labour of collecting, unless it existed in a far greater proportion in the alluvial soils, than stream-gold does, even in the mining districts.

The processes for obtaining the pure metal from the ore are very various; depending upon the nature of the foreign ingredients with which it is combined. Mechanical division, roastings to separate the sulphur and other volatile matter, meltings at different stages of purification, with the addition of fluxes of different sorts, form the essential parts of nearly all. The last of the operations, that of refining, is performed in one of the two ways we have already described in treating of gold; viz., *amalgamation*, by means of the great affinity which quicksilver has for silver, and the easy separation of the two metals afterwards, by simply distilling off the quicksilver, or *cupellation*, by means of the readiness with which lead combines with oxygen, and by which it is thus separated from the silver, which has a much less affinity for it, at the same time combining with the other baser metals.

The great supply of silver to the rest of the world is from the mines of Mexico and South America. The riches of these mines is immense; and, far from having diminished, they have gradually augmented in produce for three centuries. All the silver mines of Mexico are situated near the summit, or on the western flank of the Cordilleras, the range of mountains which runs through the centre of the country; and the greatest number, as well as the most productive of them, are situated between the 18th and 24th degrees of latitude. They are in general at moderate elevations above the great table land; but that table land is from 5600 to 8000 feet above the level of the sea. The highest mines are at an elevation of 9800 feet; but the climate, even in that high region, is mild and salubrious. At the time of Humboldt's visit there were about 500 mining establishments, containing about 3000 miners, and from 3000 to 4000 veins or masses were worked. These mining establishments are called *Reales;* thus we have the Real Catorce, the Real del Monte, &c.

The ores of silver most commonly met with in Mexico are the sulphuret, the antimonial, and the muriate. Native silver is not sufficiently abundant to be reckoned among the productive ores, but it usually accompanies the sulphuret. Sometimes masses of it of great size have been found, as at Batopilas in New Biscay, where one weighing 442 lbs. was met with. The variety of sulphuret of copper, called grey copper, is of frequent occurrence, and contains so much silver as to be considered one of the most productive of the silver ores; and there is an earthy ore called *colorados* in Mexico, and *pacos* in Peru, which is an intimate mixture of minute particles of native silver, and muriate of silver, with brown oxide of iron. A great deal of the silver of Mexico is extracted from lead ore. At Real del Monte, a sulphuret of iron yields 22 ounces of silver in the quintal, or 102 lbs. Some of the ores are extremely rich. The antimonial ore of Sombrerete yielded in six months 432,274 troy pounds of silver, equal to about 1,300,000*l.* in value, in a working of not more than 100 feet. In the mine of Valenciana, in the district of Guanaxuato, there were, in 1791, some ores which contained 168 ounces in 102 lbs.; but there were others which were so poor as not to yield more than three ounces; the average being only nine ounces in that same mine. It is supposed that the mean richness of all the ores of Mexico is not greater than from three to four ounces in the quintal of ore. The mines of Peru are not richer on the average, and the famous mine of Potosi is not so much so; for its average produce is no more than $1\frac{8}{10}$ in the quintal. The average produce of all the mines of Saxony is from three to four ounces in the quintal; so that the great quantity of silver yielded by the Mexican mines is owing to the great facility with which they are worked, and to the enormous quantity of the ore, and not to its intrinsic value.

REMARKS ON THE RELATION BETWEEN EDUCATION AND CRIME.

The above is the title of a judicious pamphlet by Dr. Francis Lieber, which has recently been published at Philadelphia, in the United States, by the Society for Alleviating the Miseries of Public Prisons. As the observations it contains are of universal application, and especially as they appear to have been called forth by statements which have been made in this country as to the supposed inefficacy of education in preventing an increase of crime, we have judged it advisable to furnish our readers with an abstract of Dr. Lieber's useful paper.

It has been stated, in both Houses of the British Parliament, that education is far from causing a de-

crease of crime, and the circumstances of the United States have been adduced in evidence of the alleged fact. In one case, it had been asserted that official information had been received from the city of New York, which would satisfactorily prove the accuracy of this position. Some remarks of Messrs. de Beaumont and de Tocqueville, in their work on the Penitentiary System of the United States, with respect to the apparent increase of crime in the State of Connecticut, had also been referred to as confirming this statement, which, if true, would disappoint the promoters of public instruction in one of their fondest hopes.

Under these circumstances, Dr. Lieber felt it of much importance that, if it were really practicable, an answer should be given to this statement, to obviate the bad effect it was calculated to have on the minds of many, and the evil it might produce in society by damping the zeal of the friends of education both in America and Europe, particularly as the results at which some able and acute statistical writers have arrived appear in some instances to sanction such unfavourable conclusions.

He commences by stating that he thinks the difference of opinion respecting the effect of education upon the decrease of crime is owing, in no slight degree, to a vagueness of expression, so common when a subject of great importance begins to attract general attention. Perhaps many writers do not connect a perfectly clear and definite idea with an expression so simple as that of "increase" or "decrease of crime." The terms "education," "instruction," "knowledge," and several others are used still more vaguely. In order, therefore, to proceed with perspicuity, it is necessary to affix a distinct idea to the several terms, knowledge, instruction, education, and civilization.

By *instruction* will be understood the imparting of knowledge, and is used by Lieber to signify public instruction, or the imparting of knowledge in schools, more especially in such schools as are established according to some general system, and strive to diffuse knowledge among those classes which are least able to procure instruction by private means. *Education* has a much more comprehensive meaning, and signifies the cultivation of the mental, moral, and physical faculties of the young. It therefore includes instruction. By *civilization* is understood the cultivation of all our powers and endowments, and whatever results from this cultivation, as well as the cultivation of all those ideas which have any connection with man's existence, as a member of civil society, or as a social being in general, as well as the adorning of his mind.

After some forcible remarks in proof that progressive civilization is the destiny of man, Dr. Lieber addresses himself to answer the question,—Does civilization promote crime? Civilization, as defined, certainly cannot be said to promote crime; yet it is admitted that an increased number of crimes will necessarily be connected with a state of increased civilization, simply because civilization multiplies, with every advancing step, the opportunities for the application of man's activity, and therefore the opportunities for its abuse. It multiplies the desires and wants of man, which is in fact one of the most desirable effects of civilization; but, together with them, it multiplies disappointments, and will always, with some individuals, create the desire of gratifying these wants by any means, whether honest or not.

But if it be thus granted that civilization multiplies the opportunities of crime, it must be admitted, on the other hand, that a universal attention to public instruction is the result of a general progress in civilization, which seldom fails to cause, at the same time, two things—first, as already explained, multiplied opportunities for crime, and, secondly, an improved state of the administration of justice, as well as of the police, which detects the deviations from the law. It would be difficult to find a government which watches with great zeal over public instruction and promotes it throughout the country that does not direct a proportionate attention to the other branches of administration. Thus it frequently happens that the introduction of a general school-system is accompanied by an increased number of convictions in the courts of justice; and cursory observers, who do not penetrate to the true causes of this phenomenon, hastily infer that the one is the cause of the other, or, at all events, that the former does not operate in producing a decrease of the latter. But in order to ascertain the true effect of general instruction we should guard against rash conclusions, and take for examples countries of large extent, in which universal instruction has been established for a number of years,—such as Prussia*,—rather than refer to those in which no thorough effect can as yet be expected, or which are so small that casual occurrences, entirely foreign to the amount of criminality in the community, may essentially disturb the usual proportion of crime and population.

It is evident that education, according to the definition which has been given, cannot possibly promote crime, unless a man be so bold as to assert that man's nature is so thoroughly bad, that, in whatever way it may be cultivated, if cultivated at all, it shoots forth the germs of its seeds of corruption—a view which would be repugnant to our conceptions of the goodness as well as wisdom of the Creator. But the question is, whether universal instruction is conducive to a decrease of crime? meaning thereby, as it is commonly understood, universal instruction in the various elementary branches of knowledge. Now, such knowledge, or, indeed, any knowledge, is in itself neither good nor bad: it has no moral character of its own. Arithmetic will assist a defaulter as much as an industrious man who works for his family, as a knife may serve the murderer as well as him who cuts a piece of bread with it for a crippled beggar. But if we come to speak of public instruction, knowledge does not retain a character so entirely indifferent.

It has often been remarked that instruction without the careful culture of the heart leads to immorality rather than to morality. This is undoubtedly true. Domestic education—the rearing of the young in sound morality—the fear of God—and the all-important example of virtue in their parents before their eyes—are of vital importance to every society; and can never be supplanted by any general school-system, however wisely it may be contrived. Suppose, however, domestic education in general, or with large classes, to be bad, and not only to continue thus from generation to generation, but, as there is nowhere a mental or moral standing still, to grow worse and worse, would not the school be one of the most natural means to correct this state of things, and gradually to introduce a better one? If the moral domestic education is not bad, instruction is not the less necessary. As to the alleged neglect of this important part of education in schools, the objection, if of any weight, points rather to the higher sorts of schools than to those established on a general system for the benefit of the less favoured classes of the community, who may be presumed most likely to suffer from the want of adequate moral discipline at school in consequence of being less likely to find it at home. Perhaps there is hardly a school, even the meanest, in which a child does not receive some moral instruction which may importantly influence his ultimate character and habits. A teacher cannot help

* It is stated, among other particulars, in an Appendix, that, in the years 1828-1831, an *increase* of 3 per cent took place in the population; and there was, in the same period, a corresponding *decrease* of 3 per cent in the number of indictments against children under 17 years of age.

enforcing some moral rules, by way of keeping order in his school-room; nor can the lessons which the children have to read and learn remain without instilling some moral precepts into the mind, or disposing it better for the reception of moral and religious views. Besides, there is in all knowledge, even in the most indifferent as to moral effects,—for instance, arithmetic,—a softening power, which renders the mind more pliable; and, however inferior it may be in itself, forms one more link which connects the individual with the society in which he lives. The more we can cultivate this feeling of being linked to a society of moral beings, and to a nation in which, like others, we have duties to perform; and the more we can prevent the growth of a feeling of separation from society, or of opposition to the rest of society, the more we shall also prevent the various acts of selfishness—of absorbing egotism—of crime.

Dr. Lieber next adverts to a consideration which, if the increase of crime simultaneously with the diffusion of education were admitted, would alone, perhaps, be sufficient to account for it. This part of the subject deserves to be considered with great attention. It is, that there are no individuals more exposed to crime than those who remain ignorant in a civilized community; or, in other words, those individuals who are touched by the wants and desires of civilization, or by the effects of general refinement, without being actually within the bosom of civilization. Ignorance, without civilization, is no peculiar source of crime; ignorance, with civilization, is an abounding source of crime, both because it lessens the means of subsistence, and because it lowers the individual in the general and his own esteem—it severs him from the instructed and educated. Instances are afforded to us in the lowest, most ignorant, and destitute classes in all large cities, who receive certain views and notions of civilization, and yet live without education and instruction. We have arrived at a state of things in which an individual who cannot read, is actually, in most respects, excluded from the great sphere of civilization; and whoever is thus excluded from the general course of civilization, is more exposed to misery, and more liable to be drawn into the snares of crime than others who are more firmly linked to society, and upon whom, therefore, shame has a greater power; and who, moreover, find it easier to gain a livelihood in an honest way.

After stating such considerations as these, Dr. Lieber returns to urge the fallacy of the assumed test for estimating the effect of education upon crime, by comparing the proportion between crime and population, since public instruction has been established in a given country, to that which before existed. The increase of crime, or, in other words, the increase of convictions, is a very unsuitable test of the increased criminality of a community, unless we are enabled, from a number of concurrent circumstances, to judge more precisely of the case. Sometimes the police has been more vigilant, sometimes the laws have been made more proportionate to the crime, and individuals have consequently been more ready to prosecute; sometimes a great influx of destitute persons has taken place, at others public attention has been roused and directed to certain crimes until then neglected; an army may have been disbanded—a winter may have been peculiarly severe—a season of scarcity may have existed, money transactions may have afforded new opportunities, &c.; in short, a number of causes, some of which are continually exercising their influence upon mankind, may have existed without the least connexion with public instruction; nay, the latter may have continued to exercise its beneficial influence during the whole time that crime was increasing, and may actually have prevented it from still greater excesses.

With regard to the alleged increase of crime in the city of New York, and in the United States at large, Dr. Lieber has no materials which could authorize him to make any definite statement on the subject. He is rather inclined to think it may be true, but accounts for it on some of the above grounds. Not a little of this effect at New York must be attributed to the influx of European rogues, vagabonds, and homeless adventurers to that great sea-port town. Generally, also, something may be attributed to the more frequent practice now than formerly of giving in newspapers full details of criminal trials and transactions. It is necessary that such cases should be noticed; but the full statement of particulars is a practice which is fraught with evil. It satisfies one of the worst cravings of the human mind, and affects it in turn in the same way in which physical stimulants and exciting liquors satisfy, and in turn ruin the body; it has a tendency to render the reader callous, and it has a positive and evil effect upon criminally-disposed persons. Dr. Lieber wishes that the editors of the more respectable papers would set the example, and abstain from furnishing those detailed accounts which he considers so injurious.

But all other causes which operate in producing crime, are inferior in effect to intemperance. We have lately shown that intemperance has not increased in *this* country; and are therefore unable to argue that any supposed increase of crime here has resulted from the extension of intemperate habits. Nevertheless, the effect of intemperance in producing crime remains the same; because not only its tendency is to lower the character and render it habitually depraved, but because a large proportion of crimes are committed by persons under the actual influence of intoxication. But although we cannot assign any increase of crime to increase of intemperance in England, and thus help to exculpate the cause of education from the charges it has so undeservedly incurred, we can do what is quite as good; we can claim for education in connexion with the more general diffusion than at any former time of good principles and useful knowledge, the merit of having prevented the increase of intemperance, and even of having effected a diminution in the aggregate amount. We are firmly persuaded that the same causes will continue to operate in producing the same effect—namely, the diminution of intemperance, and therefore of crime. Dr. Lieber says that in the United States a great increase of intemperance took place some years since, and is now showing its melancholy effects on the intemperate themselves, as well as on those who in the mean time have grown up with such pernicious examples before them. The apparent increase of crime in England must be looked for in some of the other causes to which we have before adverted, particularly the increased efficiency of the police, and the greatly softened character of the criminal laws, producing together a greater facility in the discovery and punishment of crime than ever before existed. The increase in the number of convictions, beyond the proportional increase of population, does not imply any actual increase in crime; but only that more crime has been detected. We doubt that there has been any *actual* increase of crime within the last ten years; we rather apprehend there has been a diminution.

Then, it may be asked, is there really no test by which the effect of education in preventing crime may be estimated? There is one very important test to which we purpose, still following Dr. Lieber's pamphlet, to call the attention of our readers in a future Number.

*** The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

LONDON:—CHARLES KNIGHT, 22, LUDGATE STREET

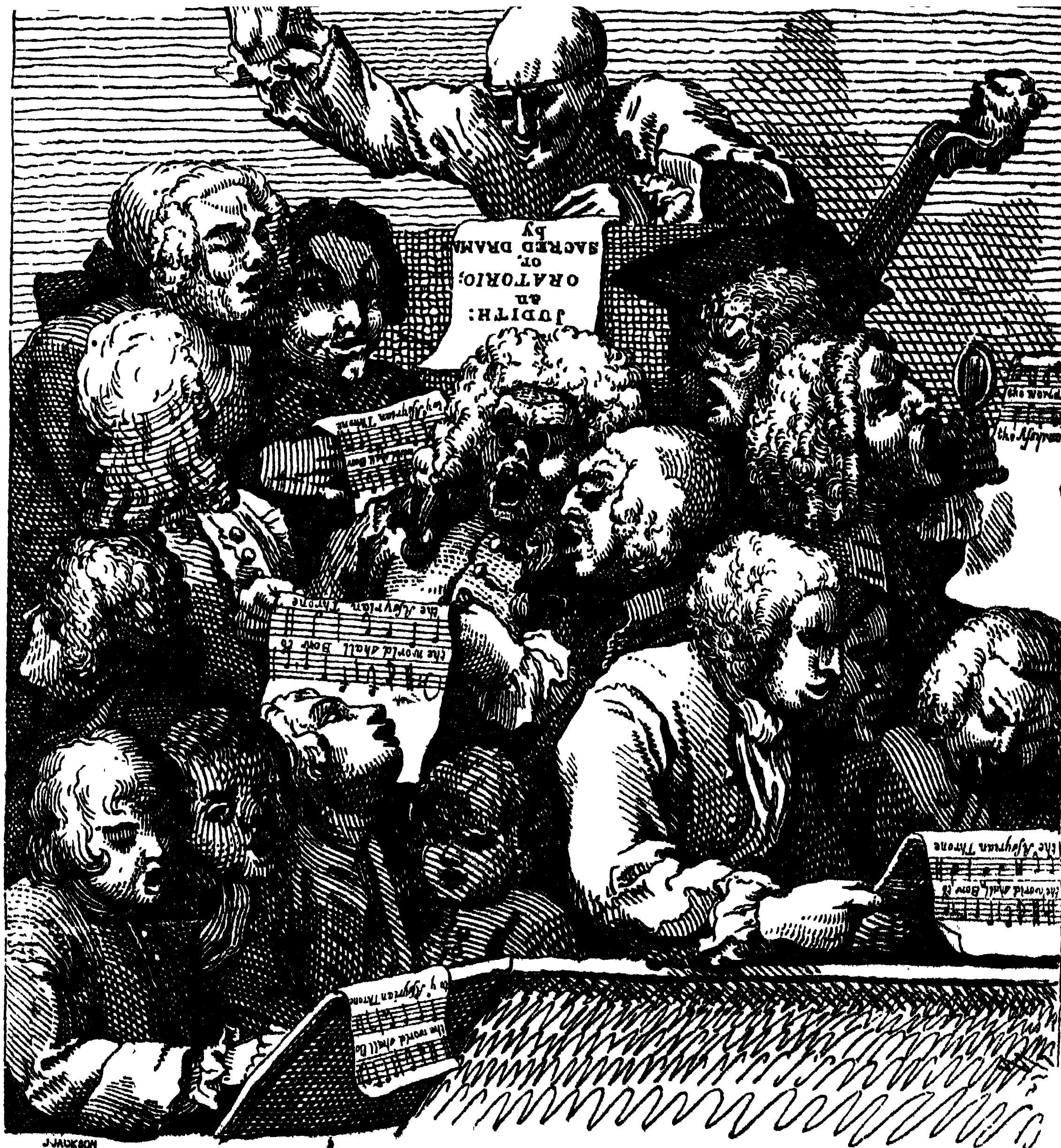
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(Conclusion of the Series.)



[The Oratorio.]

The 'Chorus of Singers,' otherwise more explicitly described as the 'Rehearsal of the Oratorio of Judith,' was published in 1734, and employed in the first instance as a ticket for the sale of 'Modern Midnight Conversation.' The oratorio to which it refers was written by William Huggins, Esq., and set to music by William De Fesch, who was some time chapel-master of the cathedral at Antwerp, and was, in Hogarth's time, a respectable professor of the violin, and, during several seasons, a leader of the band at Mary-le-bone Gardens. The 'Oratorio of Judith' was performed with scenes and decorations, but met with no success,

and was therefore published in some sort as an appeal from the decision of the audience. It however met with an indifferent reception from the public at large, notwithstanding it was decorated with a frontispiece engraved by Vandergucht, from a design furnished by Hogarth. In the group before us, the line on the music-book,—

'The world shall bow before the Assyrian throne,'

is taken from the oratorio, and was probably selected for the sake of conveying a satirical allusion to the ill success which had attended the performance. Mr. Nichols, in his statement of the variations of Hogarth's plates, says there is a mezzotinto copy of this plate entitled 'The Musical Group,' in which the title given on the top book is 'An Ode for New Year's Day;' and the line on the music-books is,—

'Cecilian sisters, tuneful nine.'

"To paint a sound," says Mr. John Ireland, "is impossible; but, as far as art can go towards it, Mr. Hogarth has gone in this print. The tenor, treble, and bass of these ear-piercing choriesters are so decisively discriminated that we all but hear them."

"The principal figure," continues the same writer, "whose head, hands, and feet are in equal agitation, has very properly tied on his spectacles; it would have been prudent to have tied on his periwig also, for, by the energy of his action, he has shaken it from his head, and, absorbed in his eager attention to true time, is totally unconscious of its loss."

Mr. Ireland informs us that the little figure in the left corner is a likeness of Hogarth's friend, Mr. Tothall, a woollen-draper, who lived in Tavistock Court. The name of the performer on his right hand,

———"Whose growling bass
Would drown the clarion of the braying ass,"

he could not learn, and thinks it probable that, with the above exception, the heads are not intended as particular portraits, but as a general representation of the distortions into which public singers are sometimes in the habit of throwing their features, either from the difficulty of producing particular notes, or from mere affectation.

Some observations of Mr. Charles Lamb on this plate may be found in page 127 of our last volume.

The engraving of the 'Laughing Audience,' of which we give a copy in the last page of this Number, originally entitled the 'Pleased Audience,' represents one of the royal theatres. The bottom of the print exhibits one end of the orchestra, behind which is a corner of the pit, and above this a part of the side boxes. Mr. Samuel Ireland, in his 'Graphic Illustrations of Hogarth,' speaks of this production in the following warm terms:—"I cannot pass this etching without paying my tribute of commendation to its extraordinary merit. Though a small work, the abundant knowledge of the human countenance is astonishingly marked in every feature; and it is certainly not inferior in execution to many of his larger productions. Yet with all its merits, the original sketches in pen and ink have still more force and spirit. These invaluable sketches, with many others of the same kind, are in my possession; they were drawn on small scraps of paper from markings of character that he accidentally met with in the course of his rambles, and that he made at the instant on his nails and the palm of his hand. This anecdote was communicated to me by Mrs. Hogarth, on whose veracity every reliance may be had."

Mr. John Ireland is still warmer in his praise of this group than even his namesake. He says:—"From the first print that Hogarth engraved to the last that he published, I do not think there is one in which character is more displayed than in this spirited little etching. It is much superior to the more delicate engravings from his designs by other artists, and I prefer it to those that are still higher finished by his own burin."

The engraving exhibits three groups of persons attending a comic performance, but differently employed and interested; and this difference comprehends all the satire which the etching may be supposed to contain. The persons in the uppermost group exhibit the most fashionable inattention to the business of the play, by which the unsophisticated people below are thrown into an extacy of mirth. To this merry set another contrast is afforded by the three musicians in the lowest compartment, who, in the sedate performance of their duties, are equally with the uppermost party lost to the excitement of the moment.

The beau in the upper compartment, for whose favours the rival orange-girls contend, is a rich specimen of the dandy of Hogarth's day; and, judging from it, we should say that the absurdities of fashion were far more outrageous at that period than at present. It is, indeed, among the circumstances which mark the national advance in civilization, that the male costume has long been undergoing a process of simplification; and even that now under notice, however absurd it may appear, was a step in that process, denoted chiefly by the absence of the enormous periwig, which earlier in the century clustered

"Beneath the shoulders broad"

of all who made any pretensions to gentility, but which was getting out of fashion about the date of this print. The present beau, however, according to John Ireland's description, "has a cuff that for a modern fop would furnish fronts for a waistcoat, and a family fire-screen might be made from his enormous bag. His bare and shrivelled neck has a close resemblance to that of a half-starved greyhound; and his face, figure, and air forms a fine contrast to that of the Grisette whom he addresses." The other beau, who, with his hand on his breast, is paying his compliments to the stout female, and presenting her with a pinch of snuff, is more simply dressed than the other: but he has a sufficiently ridiculous *queue*, and every line of his countenance seems moulded by grimace and affectation.

It is useless to expatiate on the faces in the middle compartment. We perfectly understand their respective characters at once, from the diversified manner in which the same exciting cause acts upon them. For it should be observed that mirth is not only in each countenance differently expressed, but that the amount of mirth is different in each instance. We are furnished with mirth in all its gradations, from the titter or chuckle which admits of a continued attention to the business of the stage, to laughter as an uncontrollable and exhausting convulsion. It is this diversity in the emotion itself, and in the mode of its expression, which enables us to estimate the characters of the persons in this group with as much precision as the inattention of the people in the boxes enables us to estimate theirs. Among these merry people there is one whose saturnine countenance and contracted brow, as he sternly views the scene which occasions so much pleasure to those around him, is of ill omen to the author of the play or to the performers. He is a critic; and, judging by old rules and doctrines, where others judge by their feelings, he appears to hold the play in little higher consideration than he does that part of the audience who applaud and are interested in that which he thinks they ought in true justice to hiss.

This group was engraved in 1733, and was originally given with the receipt acknowledging payments for the 'Rake's Progress' and 'Southwark Fair.'

The curious picture of 'The Gate of Calais' had its origin in a personal adventure, the account of which

is necessary to the proper elucidation of the cut. The mind of the artist entertained a large measure of some of those partialities and prejudices, which Englishmen who have not travelled, or had opportunities of enlarged observation, are apt to glory in as virtues. Among these is that blind partiality to everything English, and that disposition to depreciate and scorn everything that is not English, and above all, everything that is French, which was very generally entertained up to a comparatively recent period, and which still lingers among the ignorant classes of society, or those whose minds still feed upon the garbage of dead or dying prejudices. It is one of the good signs of the times that the national prejudices which once appeared in open day, and were gloried in, have now retired to holes and corners and solitary places. Those of our readers who have attained to manhood, will recollect the time when the windows of print-shops swarmed with prints that bodied forth the hatred and contempt of John Bull towards other nations, and particularly towards his nearest neighbours—the French. But now it will occasion a somewhat arduous search among the London shops to find a single print or caricature of this description.

These things were doubtless in a great degree occasioned by our almost continual wars with the French, as well as by the measures taken to kindle or keep alive the national dislikes. Admitting this, it seems to us one of the most cogent arguments for peace, that war thus tends to sustain the mind in a diseased state, to distort the feelings, to corrupt the judgment, and to obscure the understanding. The French are a people who have been greatly changed since the time of Hogarth, and with full allowance for the exaggeration permitted to a caricaturist, much of that view of the French which this engraving indicates does not now in any way apply to them.

If Hogarth in his conduct, as well as in the picture before us, exhibited strong national antipathies, we can only, in the way of excuse, remind our readers that such feelings were at that time common; and that it would have been considered almost un-English to have been without them. It was, besides, immediately after the conclusion of a sanguinary war with France, and before time had been allowed for the heated feelings excited by that contest to subside.

On the conclusion of the peace of Aix-la-Chapelle in 1747, Hogarth went over to France with the full determination, as it appears, to be displeased at everything he saw out of Old England. It must be admitted that France did at that time present much that was calculated to excite the ridicule of a satirist and the regret of a philanthropist. Mr. John Ireland remarks,—"For a meagre powdered figure, hung with tatters, torn *a-la-mode de Paris*, to affect the airs of a coxcomb and the importance of a sovereign, is ridiculous enough; but if it makes a man happy why should he be laughed at? It must blunt the edge of ridicule to see natural hilarity defy depression; and a whole nation laugh, sing, and dance under burdens that would nearly break the firm-knit sinews of a Briton. Such was the picture of France at that period; but it was a picture which our English satirist could not contemplate with common patience."

Mr. Steevens has given the following account of Hogarth's line of conduct in France, as related by an eminent English engraver who was abroad at the time. Hayman, and Cheere the statuary, were of the same party.

"While Hogarth was in France, wherever he went, he was sure to be dissatisfied with all he saw. If an elegant circumstance, either in furniture or the ornaments of a room, was pointed out as deserving approbation, his narrow and constant reply was, 'What then? but it is French! Their houses are all gilt or befouled!' In the streets, he was often clamorously rude. A tattered bag, or a pair of silk stockings with holes in them, drew a torrent of imprudent language from him. In vain did my informant (who knew that many Scotch and Irish were within hearing of these reproaches, and would rejoice at least in an opportunity of getting the painter mobbed) advise him to be more cautious in his public remarks. He laughed at all such admonitions, and treated the offerer of it as a pusillanimous wretch, unworthy of a residence in a free country,—making him the butt of his ridicule for several evenings afterwards. This unseasonable pleasantry was at last completely extinguished by what happened to him while he was drawing the 'Gate at Calais;' for, though the innocence of his design was rendered perfectly apparent on the testimony of other sketches which he had about him, which were by no means such as could serve the purpose of an engineer, he was told by the commandant, 'That, had not the peace been actually signed, he should have been obliged to have hung him up immediately upon the ramparts.' Two guards were then provided to carry him on shipboard, nor did they quit him till he was three miles from the shore. They then spun him round like a top on the deck, and told him that he was at liberty to proceed on his voyage without further attendance or molestation. With the slightest allusion to the ludicrous particulars of this affair poor Hogarth was by no means pleased. The leading circumstance in it his own pencil has perpetuated."

After this, it is but fair to give Hogarth's own account of the transaction, in which it will be seen that he lets out so many prejudices as to render it manifest that the preceding account has not unfairly stated the class of feelings he entertained. His account has also the advantage of containing an explanation of the picture.

"After the 'March to Finchley,'" says the artist, "the next print I engraved was the '*Roast Beef of Old England*;' which took its rise from a visit I paid to France the preceding year. The first time an Englishman goes from Dover to Calais, he must be struck with the different face of things at so little a distance. A farcical pomp of war, pompous parade of religion, and much bustle with very little business. To sum up all, poverty, slavery, and innate insolence, covered with an affectation of politeness, give you, even here, a true picture of the manners of the whole nation. Nor are the priests less opposite to those of Dover than the two shores. The friars are dirty, sleek, and solemn; the soldiery are lean, ragged, and tawdry; and as to the fish-women—their faces are absolute leather!

"As I was sauntering about and observing them, near the gate, which it seems was built by the English when the place was in our possession, I remarked some appearance of the arms of England on the front. By this and idle curiosity I was prompted to make a sketch of it, which being observed, I was taken into custody; but not attempting to cancel any of my sketches or memorandums, which were found to be merely those of a painter for his private use, without any relation to fortification, it was not thought necessary to send me back to Paris. I was only closely confined to my own lodgings till the wind changed for England, where I no sooner arrived than I set about the picture;—made the gate my background, and, in one corner, introduced my own portrait, which has generally been thought a correct likeness, with the soldier's hand upon my shoulder. By the fat friar, who stops the lean cook that is sinking under the weight of a vast sirloin of beef, and two of the military bearing off a great kettle of *soup-maigre*, I meant to display to my own countrymen the striking difference between the priests, food, soldiers, &c., of two nations so contiguous that, in a clear day, one coast may be seen from the other. The

melancholy and miserable Highlander, browsing on his scanty fare, consisting of a bit of bread and an onion, is intended for one of the many who fled from this country after the rebellion in 1745."

As far as regards the motive, this and the prints of 'France' and 'England,' are certainly among the least commendable of Hogarth's pieces. In the instance of the 'Gate of Calais' we discern the desire to be revenged for a personal affront, as well as to gratify a national antipathy, and possibly to acquire popularity and profit by ministering to the prejudices of the multitude. He doubtless persuaded himself that his objects were higher and more laudable than these; but we can, at this distance of time, discover nothing to satisfy us that they were so. Horace Walpole remarks, in reference to the three pictures of which this is one:—"Sometimes, to please his vulgar customers, he stooped to low images and national satire, as in the two prints of 'France' and 'England,' and that of the 'Gate of Calais.' The last, indeed, has great merit, though the caricature is carried to excess. In all these the painter's purpose was to exhibit the ease and affluence of a free government, opposed to the want and woes of slaves*." It is pleasant to remember, that even if, at the time of its publication, this picture had exhibited truth and not caricature, the French of the present day might still afford to smile at it. They are no longer the slaves whom Hogarth saw. Since his time, many long years of suffering, of vehement conflict, and of good and evil deeds, have wrought much change both in the circumstances of the nation and in the character of the people.

This print obtained the popularity which might be expected. The profile of the artist in it was copied for a watch-paper; and a wood-cut copy of the half-starved French centinel has often since headed the advertisements for recruits, where it has been opposed to the figure of a well-fed British soldier. Soon after the publication, the popular cantata, intitled 'The Roast Beef of Old England,' appeared. It was written by Hogarth's friend, Mr. Theophilus Forest, and was published under the sanction of the artist, being headed by a copy of his print. This performance explains the different characters in detail; for which reason we copy some portions of the recitative.

"'Twas at the Gate of Calais, Hogarth tells,
Where sad Despair, with Famine, always dwells,
A meagre Frenchman, Madame Grandsire's † cook,
As home he steer'd his carcase, that way took,
Bending beneath the weight of famed *Sir-loin*,
On whom he often wish'd in vain to dine,
Good Father Dominick by chance came by,
With rosy gills, round paunch, and greedy eye;
Who, when he first beheld the greasy load,
His benediction on it he bestow'd;
And while the solid fat his finger press'd,
He lick'd his chops, and thus the knight address'd.
* * * * * *
A half-starv'd soldier, shirtless, pale, and lean,
Who such a sight before had never seen,
Like Garrick's frighted Hamlet, gaping stood,
And gazed with wonder on the British food.
His morning mess forsook the friendly bowl,
And in small streams along the pavement stole
* * * * * *
His fellow-guard of right Hibernian clay,
Whose brazen front his country did betray
From Tyburn's fatal tree had hither fled,
By honest means to get his daily bread;
Soon as the well-known prospect he espied,
In blubbering accents dolefully he cried.
* * * * * *
Upon the ground hard by poor Sawney sate,
Who fed his nose, and scratch'd his ruddy pate;
But when Old England's bulwark he descried,
His dear-loved mull, alas! was thrown aside;
With lifted hands he bless'd his native place,
Then scrub'd himself, and thus bewail'd his case."

The only known portrait in this performance, besides that of the artist, is that of the friar, for which Mr. Pine the engraver sat. He thus acquired the nickname of "Father Pine*," in consequence of which he unsuccessfully endeavoured to persuade Hogarth to give the friar another face. It is said that, when he sat to our artist, he was not aware to what purpose his likeness would afterwards be applied.

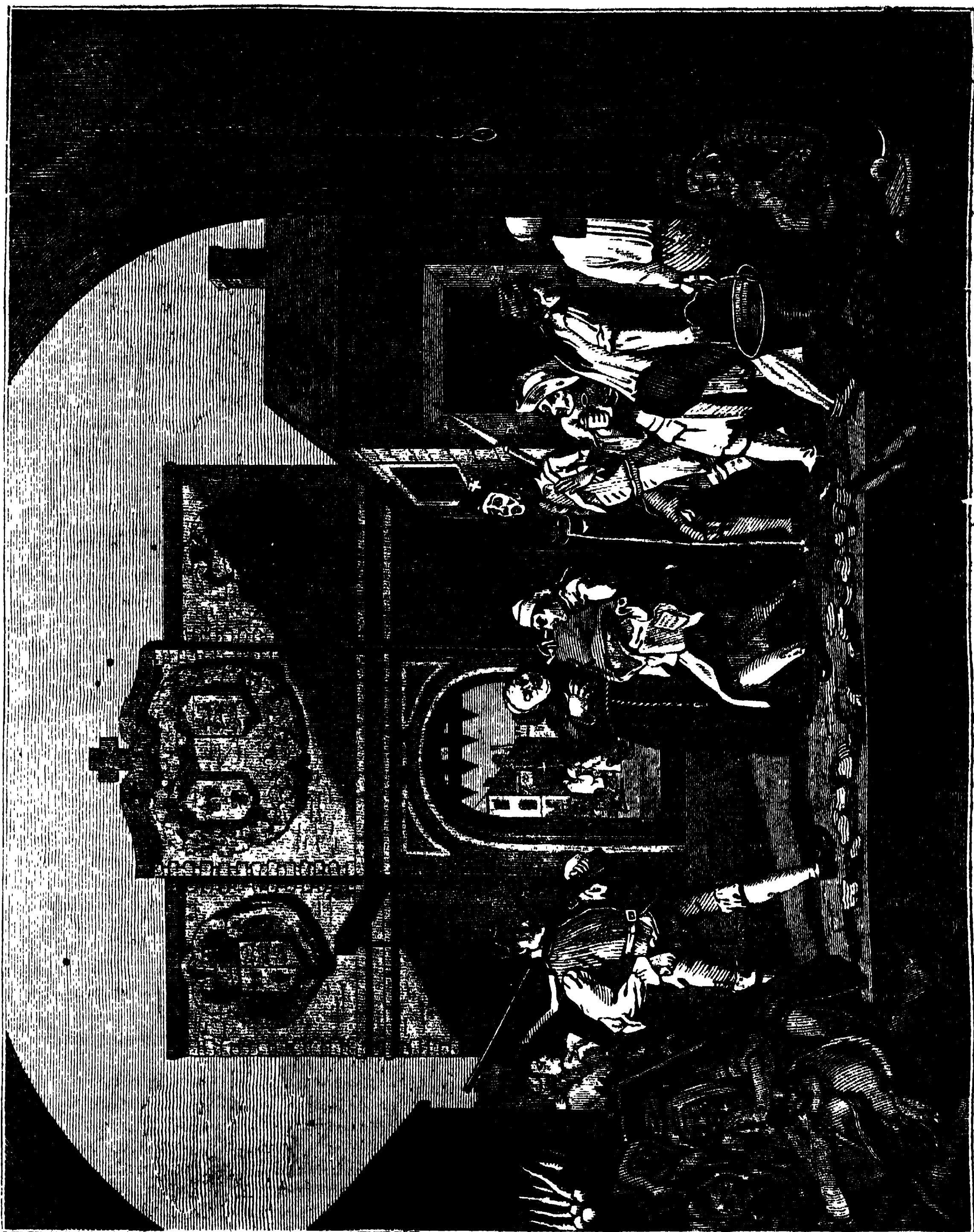
With the cuts in our present Number, the series from Hogarth's plates, which it was our intention to place before our readers, is completed. It will be found to include a few which were not specified in the list which we gave at the commencement of the undertaking. It has been our wish to furnish our readers with as much of Hogarth as could be admitted into a work of such general and extensive circulation as the 'Penny Magazine;' and after our list was prepared, we were led to consider that there were a few plates not necessarily excluded by the line we had been obliged to draw. It must be evident to those who are even but slightly acquainted with the works of our artist, that in determining to furnish from them a series which no parent could hesitate to allow his children to study, a careful selection was necessary, which would exclude some of Hogarth's foremost compositions. It was simply our intention to supply a *family series* of Hogarth, that the works of that great artist, and the moral lessons they convey, might not be wholly unknown to the young on account of the unsuitableness for their inspection of many which are contained in the common collections of his works. That the full benefit of a carefully-selected series may be realized, it is our intention to re-publish in a separate form the plates which have appeared in the 'Penny Magazine,' with about half as many more additional cuts, and the text enlarged. In stating this intention it is proper to add that those who desire to obtain a complete edition of Hogarth's works, are now offered such an opportunity of doing so as can never again recur. Mr. Baldwin, who possesses the original plates, engraved by Hogarth himself, intends to publish the impressions from them in periodical numbers, and on terms which will render Hogarth's autograph works more generally accessible than they have ever yet been.

The principle by which our own selection has been regulated was explained in the Number with which we commenced the series. The taste of Hogarth's time—or rather the taste necessarily connected with that measure of civilization and refinement which had then been attained—admitted a more naked display of vice for the purposes of correction, than can at this more advanced stage be tolerated. We only now require to have *indicated* that which it was formerly considered necessary to *display* openly and fully. We do not adopt the common alternatives of stigmatizing the taste of Hogarth's time as gross and vicious, or that of the present time as false and affected. We believe each condition of taste to be natural and proper in its place and time, being true and suitable concomitants of different states of intellectual and external civilization. Hogarth was right in presenting his age with the aliment which its health and strong appetite required; but the differences of habit and taste which have since then resulted from a great advance in general refinement, rendered it imperative on us to select from the mass of his works only those which could not *now* be considered offensive to a female or injurious to a child. This consideration has operated to the exclusion of all the

* In 'Beer Street' the English blacksmith tossing a Frenchman in the air with one hand is absolutely hyperbole. Hogarth has, however, in this instance the merit of having seen the bad taste of the circumstance, as he afterwards substituted a leg of mutton in the place of the Frenchman.

† Hogarth's hostess

* "Friar Pine," according to Nichols.



[Calais Gate.]

plates in the 'Harlot's Progress,' and some of those in the 'Rake's Progress,' and 'Marriage-a-la-Mode,' notwithstanding the instructive tendency of the stories which they respectively tell, and the truth with which they are told. We were also limited by the absolute necessity of rendering the 'Penny Magazine' as varied as possible; and this circumstance prevented us giving some unexceptionable plates in the 'Rake's Progress' and 'Marriage-a-la-Mode, which will appear in the separate publication.

There are also some plates, of much general interest and use, which it was necessary to exclude on account of several details of real and gratuitous indelicacy which they contain. That Hogarth, considered in his general character, can be justly charged with indelicacy, we are fully prepared to deny; but that instances of this fault do sometimes occur, it is useless to dispute, and to explain or extenuate them is not our present duty. Of this matter Mr. Steevens (in Nichols's edition of Hogarth) has, in our opinion, taken a view rather exaggerated and unjust; and we are disposed to give the artist the full benefit of the statement which Mr. Cunningham makes in reply, in his 'Lives of the most eminent British Painters, Sculptors and Architects.' He truly observes, that faults of this description "are few and inconsiderable in regard to so voluminous an artist, and they are such as naturally presented themselves in works which had a higher aim, as a picture of vice mingles with the sermon which brands and crushes it. Indeed it is wonderful that these blemishes are so few and trivial. In grappling with folly and in combating with crimes, he was compelled to reveal the nature of that which he proposed to satirize; he was obliged to set up sin in its high place before he could

crown it with infamy." We are not sure, however, that in this passage, which is perfectly true in its general application, Mr. Cunningham distinguishes between circumstances of indelicacy gratuitously introduced, which Steevens had particularly in view, and those displays of naked truth which we mentioned in the preceding paragraph, and to which Steevens makes no objection.

Other plates have been omitted on the ground that, although they inculcate their moral with great force, the disgust, distress, or horror with which the details must be regarded more than counterbalance any good effect they are calculated to produce. This, for instance, is the case with the series called 'The Stages of Cruelty.' Mr. Charles Lamb's opinion of this work has already been quoted, to which we may now add that of Mr. Cunningham:—

"I wish it had never been painted. There is indeed great skill in the grouping, and profound knowledge of character; but the whole effect is gross, savage, and revolting. A savage boy grows into a savage man, and concludes a career of cruelty and outrage by an atrocious murder, for which he is hanged and dissected. The commencement is painful; and the conclusion can scarcely be looked upon save by men practised in surgery or the shambles."

We are confident, however, that the number of plates to which none of the above objections are applicable, and which we have had great satisfaction in transferring to our pages, will enable our readers to realize a very desirable acquaintance with one of the greatest painters this country has ever produced. The series will be found to include nearly the whole of the 'Industry and Idleness,' all the 'Election' series, some plates from 'Marriage-a-la-Mode' and the 'Rake's Progress,' the companion-pieces of 'Gin Lane' and 'Beer Street,' besides a considerable number of cuts after Hogarth's best miscellaneous pieces.

In the Number in which we commenced our series of engravings after Hogarth, the opportunity was taken of furnishing a general estimate of his powers and his style of art. It does not appear desirable that, in this concluding portion, we should resume the subject. There was, however, one point which was but slightly touched upon on the former occasion, and which seems to require to be more largely noticed; especially as all the cuts in the present Number appear to be of a description particularly calculated to call attention towards it. As there is a sense in which Hogarth must be regarded as a caricaturist, it is desirable that we should be able to estimate the rank to which he is entitled in that character. Mr. James Peller Malcolm, who devoted much of his attention to the elucidation of the history of caricaturing, has given an estimate of our artist, in which we so entirely concur, that we think it preferable to quote the statement of this most competent authority, rather than occupy the space we can allot to the subject with remarks of our own. The following is therefore an abridgment of the detailed estimate which Mr. Malcolm has given in his 'Historical Sketch of the Art of Caricaturing.'

Previously to the time of Hogarth, caricaturists had, with some exceptions, "indulged a propensity to render the objects of their satire odious to the world, not because they were eminently vicious or immoral in private life, but because they were persons who held political situations under the government*. That it might frequently be deserved we cannot pretend to deny; yet it is evident that party spleen too often suggested a degree of severity which belongs only to crimes of the deepest dye.

"Hogarth was the man destined to convert the powers of the pencil and graver into rods of correction for vice; and although we must not represent him as wholly guiltless of making an ill use of his talents, it may be safely asserted that his graphic precepts of virtue and propriety very far outweigh his errors, originating from pique or private resentment. The success which attended Hogarth's labours as a moral caricaturist, both in his native country and every part of Europe, might serve as an useful lesson to future artists, and induce them to select their subjects from the fruitful sources of folly and misconduct rather than the acts of any set of ministers or their adherents. * * Unfortunately for the caricaturist, he often puts it in the power of the satirised politician to laugh at the senseless distortions of his fancy, tortured to express something altogether inexpressible. Let us compare the detestable idea of Sir Robert Walpole tearing gold from the bowels of an infant, with Hogarth's emblematical print of the South Sea scheme of 1720, and make inferences from each: the former will appear the offspring of ungovernable malice, and the latter a well-intended attempt to check a phrenzy which threatened the nation with ruin." * * *

"If we take a general view of his productions, it will be found that he seldom indulged in caricature beyond the limits which nature assigns when she thinks fit to be capricious; and it was from this prudent restraint upon his genius that he derived much of the approbation he obtained. Such was his discernment, that he had only to observe how the passions operated upon muscles and outlines rather deranged when the mind was placid, and his memory was so powerful that he transferred them with the correctness of portraits; and in delineating the faces of the vulgar as he found them in the streets of London, he has merely given us the expression and very character of the people without the least caricature. All his larger productions furnish instances of this fact; some of which I shall mention, and occasionally point out where he has deviated into distortion."

The observations which follow on a considerable number of Hogarth's principal works extend to too great a length for us to transcribe. We shall therefore merely select, and combine in one statement, those passages in which Mr. Malcolm refers to engravings which have been included in our series. This will also serve the purpose of a concluding summary in bringing these cuts anew to the recollection of our readers.

Reviewing the plates with the intention indicated in the last quotation, Mr. Malcolm observes, that 'The Oratorio of Judith' cannot perhaps be cited as an illustration of either of the points to which he had adverted, nor can we safely pronounce that overstrained muscles have been given to the singers when we recollect the variety of strange gasping mouths exhibited during Lent at Covent Garden Theatre. 'The Enraged Musician' seems to have been produced from a selection of portraits made from blind musicians, ballad-singers, and dustmen. The first of these itinerants, though an object of compassion, has his counterparts in London at this very day; and much of the singular and ludicrous effect in the muscles of each face, arises not from any exaggeration in the artist, but from the natural effect of the effort of blowing through a small pipe, and of extending the mouth to sing, or to roar "Dust ho!" After remarking that the print entitled 'Characters and Caricatures' is sufficient to demonstrate that Hogarth was excelled by some of his successors in the art of mere personal caricature, Mr. Malcolm proceeds to observe, that our artist was far more successful in this line when he drew without, coercing

* Malcolm's book was published in 1813. There seems to exist, at present, a strong tendency towards the revival of this species of caricature; though the best caricaturist of the present day is tolerably impartial, and seldom or never ferocious.

his genius, as in 'The Gate of Calais,' where we have genuine caricatures of national characteristics of face; while 'Gin Lane' furnishes dreadful marks of his power of representation in brutal inebriety.

Our author is of opinion that, if a modern engraver had undertaken to satirize a politician, we should have been presented with a countenance scarcely human attached to a body seeming to act from impulses not common to our nature. Hogarth, with greater propriety, has represented an old man, of plain, homely features, eagerly reading a newspaper by the light of a candle which he has seized; and, bringing the flame in contact with the brim of his hat, burns a hole through it, unconscious of his situation.

The 'Industry and Idleness' series abounds with every species of horrible expression. The scenes which illustrate idleness and its consequences are derived from sources scarcely within the knowledge of the strictly virtuous, who can barely comprehend to what extent vice may operate in deranging and brutalizing the human countenance. Indeed, it is scarcely possible to delineate the aberrations which cruelty, avarice, and drunkenness cause from symmetry and perfection.

Among the instances in which Hogarth has excelled in exciting risibility by touches of whim and humour, without having resorted to more exaggeration than satire demands, the picture of the 'Levée,' in the 'Rake's Progress,' may be mentioned. It presents a curious group, composed of a fencing-master and dancing-master, an author, and other characters; all of whom are delineated with delicate touches of irony, and employ themselves in rehearsing their different professions during the Rake's perusal of a challenge which has been brought to him by a furious, blustering, weather-beaten officer. The same observation may, in general, be applied to the picture of 'Chairing of Members after an Election.' This does, however, contain traits of pleasantry rather misapplied, although they must create a smile, even in those who disapprove. The idea of seating a chimney-sweep on the wall of a church-yard in the act of accommodating a skull with a pair of spectacles, cannot be approved, although it is impossible to contemplate the countenance of the sooty brat without a grin. The same contraction of the muscles must follow a view of the member as he falls from his chair in the presence of the fainting lady; and yet such a fall must inevitably produce a fracture, dreadful bruises, or even death. The same censure is applicable to the monkey discharging a gun which points to the head of the sweep, and the thresher and wooden-legged seaman about to maim each other with a flail and monstrous club. Yet it must be admitted that all these occurrences were such as might happen on such an occasion.

We feel unwilling to close the series without making room for the following strongly-drawn character of Hogarth as an artist, from the Illustrations of Mr. John Ireland—a writer who seems to us to have entered into the mind and spirit of his original more fully than any of the other editors who have furnished the public with comments and illustrations. The essay of Charles Lamb must, however, be always regarded as the truest and finest exposition of Hogarth's genius.

"Were the character of Hogarth considered by a connoisseur, he would probably assert that this man could not be a painter, for he had never travelled to Rome;—could not be a judge of art, for he had spoken irreverently of the ancients—gave his figures neither dignity nor grace—was erroneous in his distribution of light and shade, and inattentive to the painter's balance—that his grouping was inartificial and his engraving coarse.

"To traverse continents in search of antique paintings, explore caverns for mutilated sculpture, and measure the proportions of a statue with mathematical precision, was not the boast of William Hogarth. The Temple of Nature was his academy, and his topography the map of the human mind. Disdaining to copy or translate, he left the superior class of beings, that people the canvass of Poussin and Michael Angelo, to their admirers; selected his images from his own country, and gave them with a verity, energy and variety of character, ever appropriate and invariably original. Considering his peculiar powers, it is fortunate for his fame that he was a native of Britain. In Switzerland the scenery is romantic—the rocks are stupendous; in Italy the models of art are elevated and majestic—the ruins of ancient Greece still continue a school of architecture and proportion; but in England, and England only, we have any variety of character that separates man from man. To these he resorted, and rarely attempted to heighten nature by either ideal or elevated beauty; for although he had the eye, he had not the wing of an eagle; when he attempted to soar, particles of his native clay clung to his pinions, and retarded his flight. * * * *

"I do not know in what class to place his pictured stories. They are too much crowded with little incidents for the dignity of history; for tragedy, are too comic; yet have a termination which forbids us to call them comedies. Being selected from life, they present to us the absurdities, crimes, punishments, and vicissitudes of man: to-day, basking in the bright beams of prosperity; to-morrow, sunk in the gloom of comfortless despair. Be it recorded to his honour that their invariable tendency is to the promotion of virtue, and the diffusion of such a spirit as tends to make men industrious, humane, and happy."

It would be scarcely pardonable to omit adding to this a few sentences from the warm and discriminating praise which Horace Walpole has bestowed upon the works of Hogarth, his account of whom thus commences:—"Having despatched the herd of our painters in oil, I reserved to a class by himself, that great and original genius, Hogarth; considering him rather as a writer of comedy with a pencil than as a painter. * * * Hogarth had no model to follow and improve upon. He created his art, and used colours instead of language. His place is between the Italians, whom we may consider as epic poets and tragedians, and the Flemish painters, who are as writers of farce and editors of burlesque nature. They are the Tom Browns of the mob. Hogarth resembles Butler; but his subjects are more universal; and, amidst all his pleasantry, he observes the true end of comedy—reformation; there is always a moral in his pictures. Sometimes he rose to tragedy, not in the catastrophe of kings and heroes, but in marking how vice conducts, insensibly and incidentally, to misery and shame. He warns against encouraging cruelty and idleness in young minds, and discerns how the different vices of the great and the vulgar lead by various paths to the same unhappiness." Hogarth obtained high praise from many of his own distinguished contemporaries. Somerville, the author of the 'Chace,' dedicates his 'Hobbinol' to him as to the "greatest master in the burlesque way." In this dedication, he says,—"In this, you have some advantage of your poetical brethren, that you paint with the eye. Yet remember, Sir, that we give speech and motion, and a greater variety to our figures. Your province is the town; leave me a small outside in the country, and I shall be content. In this, at least, let us both agree, to make vice and folly the object of our ridicule, and we cannot fail to be of some service to mankind."

The artist obtained a much finer and appropriate

compliment from Fielding, who in his preface to 'Joseph Andrews,' says,—"He who should call the ingenious Hogarth a burlesque painter would in my opinion do him very little honour; for sure it is much easier, much less the subject of admiration, to paint a man with a nose or any other feature of a preposterous size, or to expose him in some absurd or monstrous attitude, than to express the affections of men on canvass. It hath been thought a vast commendation of a painter to say his figures seem *to breathe*; but surely it is a much nobler and greater applause that they appear *to think*."

We may also introduce here the well-turned epitaph, written by Garrick, which was inscribed upon the artist's tomb at Chiswick:—

"Farewell, great painter of mankind!
Who reached the noblest point of art;
Whose pictured morals charm the mind,
And, through the eye, correct the heart.

If Genius fire thee, reader, stay;
If Nature touch thee, drop a tear;
If neither move thee, turn away,
For Hogarth's honoured dust lies here."

The following shorter but superior epitaph was offered by Dr. Johnson:—

"The hand of him here torpid lies,
That drew the essential form of grace;
Here closed in death the attentive eyes,
That saw the manners in the face."



[The Laughing Audience.]

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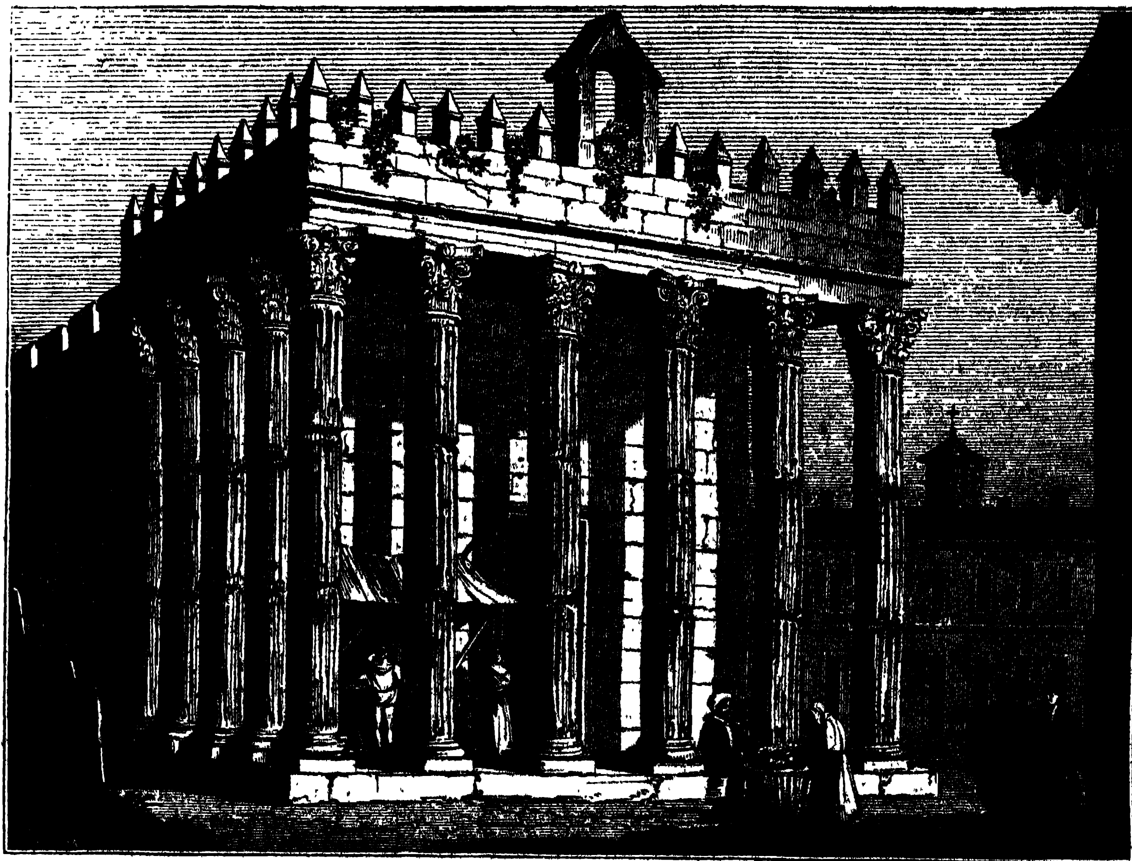
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ANCIENT ROMAN TEMPLE AT EVORA.



[Temple of Diana at Evora.]

THIS temple is the most beautiful remain of ancient architecture to be found in Portugal, and one of the finest and best preserved specimens that exist in any part of Europe. The city of Evora, in which it stands, is the capital of the fine province of Alemtejo. It is a place of great antiquity, and from its advantageous situation has probably been occupied as a town by all the successive races of men that have inhabited or conquered this part of the peninsula. According to Spanish and Portuguese antiquaries it was first built, by the Celts nearly 800 years before the Christian era, but of course no positive belief is to be given to assertions which are supported by no positive proof. Pliny and other Roman writers agree in thinking that it had been inhabited by the Gauls, Phœnicians, and Persians in very remote times. That extraordinary man Quintus Sertorius, who, proscribed by Sylla, and, flying from his tyranny, nearly succeeded in establishing a great and separate republic in Spain and Portugal, took Evora about eighty years before Christ, fortified it in the Roman manner, and adorned it with many public edifices. Its next conqueror was Julius Cæsar, who further enlarged it, made it a principal town, and gave it the name of Liberalitas Julia. It continued, however, to be commonly called Ebura by the Romans, of which name the modern Portuguese denomination is only a slight corruption. It was taken by the conquering Moors in A. D. 715, and retaken from them in 1166 by the Portuguese Christians under the command of the celebrated Giraldo, "O cavalhèiro sim medo" (The Knight without fear), whose person is still represented in the city arms, riding on horseback with a naked sword in one hand, and the heads of a Moorish man and woman in the other. Since that time it has been a frequent residence of the Portuguese sovereigns, and John III. bestowed some repairs on its Roman aqueduct and other ancient structures in the course of the sixteenth century.

Evora is beautifully situated on an eminence which is nearly covered with orange and olive groves, vineyards, and orchards, while at the foot of the hill the country is laid out in corn-fields, and the middle distance varied with old and solemn-looking cork-woods. The city contains about 20,000 inhabitants, and is the seat of an archbishop. It formerly contained a prison and tribunal of the Inquisition, but we are happy to say that even as far back as 1788 when Mr. Murphy travelled in Portugal, the offices of the Inquisitors and Familiars had become mere sinecures, and that the establishment has long been wholly suppressed. There was also a Jesuit college at Evora, but that, too, was suppressed at the expulsion of the order.

The first object that attracts the attention of the traveller on arriving at Evora, is the ancient

represented in our engraving, and which, from some inscriptions discovered, appears to have been dedicated to the goddess Diana.

The front of this temple is what is called an Hexastyle, *i. e.*, it has six columns. The columns, of the delicate ornamental Corinthian order, are three feet four inches in diameter, and have suffered little from time and weather, or the violence of man. The entablature is entirely destroyed, except part of the first facia of the architrave. The sharp pinnacles by which it is crowned, and which give the upper part of the temple the appearance of an Eastern fortification, are an addition made by the Moors, who could never adapt their beautiful but altogether different style of architecture to the style of the Greeks and Romans. The rest of the edifice is almost in its original condition, and is in a wonderful state of preservation, considering that in all probability eighteen centuries have passed since it was built by the Romans. The material of the building is not marble, but fine hard granite.

Antiquaries, who like to make every thing as old as they can, have attributed the erection of this temple to Quintus Sertorius, and as Roman architecture was not equal in his time to so elegant a work, they have supposed he employed Greeks upon it. Perhaps a more reasonable supposition would be, that the temple was built about a century later, under the Roman emperors, when the arts were in a very advanced state.

The Portuguese have been rather deficient in taste with respect to this chaste and delicate temple: they have converted the interior into a slaughter-house for cattle to supply the butchers' shops of Evora.

A POOR STUDENT'S LITERARY WAYS AND MEANS.

(From a Correspondent.)

THE insertion of the paper entitled 'A Little Knowledge' in the 'Penny Magazine' encourages its writer to think that there are some other facts in his personal history which the readers of that publication might not consider uninteresting. The "pursuit of knowledge under difficulties" of some kind or other will never be without illustrations: but I am always delighted to think that the cheap publications which now pervade the land to its remotest corners, and which, either by loan or purchase, are accessible to all, together with the establishment of libraries and reading societies for the poor, must soon operate in obviating, even to the poorest, that particular class of difficulties which were formerly the most serious, and which required the most arduous exertions to surmount. I have had *peculiar* difficulties; but at present I shall limit my statement to those which did not result from any peculiarity in my circumstances, but were such as, in some degree or other, impeded the progress of all those in the humblest classes of life who sought to walk in the ways of knowledge, but which may now be numbered among the things which are past, but not yet forgotten. The peculiarity in my circumstances—my deafness—it is only requisite that I should first mention, for the sake of showing that one of the principal avenues of knowledge and enjoyment being closed, books necessarily became to me of much greater importance than to others not similarly circumstanced.

Passing by the struggles which, in mere childhood, attended the possession of a halfpenny or penny, when fruits, "sweet-stuff," and gingerbread sometimes made a powerful stand against the claims of little books and pictures;—omitting also the history of the measures which, at a later period, I adopted against the peace of my neighbours while they had in their possession a single book which had not been lent to me; I will begin my little statement when the books of my neighbours had been exhausted—when halfpennies and pennies had become scarce, and could only be obtained by my own exertions,—and when, at the same time, my mind had outgrown the sort of aliment which single pence could *then* obtain. I shall then, in this paper, state the measures to which I resorted in order to raise funds for the purchase of books; and, in a future paper, I will explain the difficulties which were experienced in the disposal of the pence thus acquired.

At the port of Plymouth most of the merchant-vessels receive and discharge their cargoes in a basin called "Sutton Pool," a great part of the bottom of which is left dry at low water. This bottom, however, consists generally of soft black mire, which is, in some places, of such depth as to expose to considerable danger the boys who are, or were, accustomed to go down, at low water, into the pool, and wade about in search of bits of rope-yarn or old iron, which had been thrown from the vessels or left by the tide. Experienced boys, who knew the unsafe places of the bottom, and were acquainted with the effects of the returning tide in the pool, might pursue this employment with safety and confidence; but beginners were in much jeopardy of getting beyond their depths in the mud, or of being cut off by the returning tide at a distance from the points of egress. Hogs are perhaps not more fond of being in the mud than boys are; and hence this employment was frequently followed as much from love of it as from the desire of gain; otherwise it might have been felt rather an unpleasant business to grope about for hours, above the knees in mire, for the chance of earning a penny or three-halfpence. If my memory does not fail me, rope-yarn then brought one-halfpenny per pound, and iron a penny for three pounds. I have known experienced boys sometimes get as much, in this manner, as three-pence in one day; but the average was much below this: and I am bound to acknowledge that, in my own instance, my *weekly* gains never exceeded four-pence, and never but once amounted to that sum. This was one of my earliest resources; but by the time that I had acquired some experience in the employment, and was beginning to render it more productive than it had been, an accident drew my attention from it, and gave me leisure to think of other ways and means. I one day trod upon a broken bottle, which was concealed in the mire, and my foot received so deep a wound that I was kept within doors by it for several weeks.

During the interval, I was led to consider whether I might not turn to some gainful account the remains of a fourpenny box of water-colours, which had previously been seldom employed, except for the purpose of colouring the prints which were contained in the few little books I then possessed. I determined to attempt to draw some fine pictures, and to sell them at the price of one halfpenny or a penny each. What an infinitely-bright idea did I consider this! I was astonished that an occupation so much more promising and congenial than that of seeking rope-yarn and old iron in the mud of Sutton Pool had never occurred to me before. I laid out the two-pence I then possessed in the purchase of some paper, and immediately devoted myself with the utmost ardour to the business of raising a respectable stock in trade. I had never before attempted anything in the way of drawing; and the result in the present instance did not furnish any very remarkable specimens of art.—I only attempted the human bust, houses, and flowers. I never, that I recollect, produced a single full-length figure;—my drawings were in the style of the common-engraved portraits in ovals. The countenances were, in general, purposely made more or less grotesque by modifications of the nose, mouth, and chin; but they agreed, in being all of them profiles,

and in all looking the same way. Houses, or rather cottages, I found to be much more difficult, because it was desirable to introduce trees, bushes, birds, and other circumstances to render the scene picturesque and interesting; and it was difficult to proportion the different details to each other. I have a distinct impression that I was particularly unfortunate in my birds, which were in general large enough to bow to the dust the twigs, bushes, or flowers on which they seemed to rest. But it was necessary to make them large that they might not escape notice, and their colours might be fully displayed. As to my flowers, they were generally in pots: but I gave them no names, and did not profess to know that they resembled anything in nature or art. They were *flowers;*—that was all. They exhibited an arbitrary number of expanded petals around a centre which was in all cases yellow. My pictures of plants differed more from each other in the flower-pots than in any thing else. The plants themselves were essentially the same throughout, only they were represented as growing differently, and with petals differently coloured. Thus far I can *now* smile—but no further. I cannot smile when I recollect the intense excitement with which I applied myself to my new labours, and the glorious visions of coppers and of reputation which attended my progress. How knew I but that in process of time my pictures might be pasted upon the walls or over the mantel-pieces of most of the rooms in the lane where I lived! This was the extent of my ambition; for I do aver that I did never, even in thought, aspire to the dignity of being framed. The boyish distinction that might thus be acquired among my compeers was, however, a perfectly secondary object—that which I wanted was money!

When I had completed as many drawings as would have sufficed to make some display, I discovered a very unlucky oversight in my speculation. I had pictures to display; but how was I to display them? The room which my parents occupied did not front the street; but the window looked into a court, and was visible only to the few poor persons who had apartments in the court. There was no remedy, however, and I hung them up in the window. They soon attracted the attention of the children who lived in the court, who carried the news into the street, and brought others to view the work of my hands. It was with no common feelings of mingled anxiety and pleasure that I lurked behind the window, and between the pictures obtained a view, myself unobserved, of the groups assembled outside to look at my performances. I thought they looked delighted—I thought some looked as if they longed to possess them: but whether it were that they had no halfpence to spend, or that they thought they could lay out their halfpence to more advantage, I cannot tell; but so it was, that my customers were discouragingly few. Indeed, after the novelty of the thing had subsided, both children and grown people passed the pictured window with perfect unconcern. Halfpennies dropped in now and then, however; and I feel it difficult to express the delight with which I received them, not merely on account of the advantages they enabled me to obtain, but because I knew that they had been well earned—and earned, too, by my own process. I think that, taking one week with another, my average weekly income from this source was about two-pence halfpenny. There was one week in which I got as much as eight-pence, but that was only on the following extraordinary occasion:

During the fair at Plymouth, it is customary for industrious girls to have a "standing," as it is called, in the streets, generally outside their own doors. This standing consists of a small table, over which a napkin is nailed against the wall, and to this the various articles which appertain to a doll's wardrobe are fastened with pins, and thus exposed for sale, while the table itself is spread with smart pin-cushions and other matters which do not easily admit of being pinned to the napkin. Behind these "standings" the girls sit on stools, like so many little Patiences on monuments, waiting for customers. The idea occurred to me of having such a standing during the fair for the sale of my pictures. The time was short, and I laboured hard to provide an adequate supply of goods for the occasion. I then carried my intention into effect. The innovation was startling, and drew a degree of attention to the stall and its master, which was in the highest degree annoying to myself personally. But I faced it out; and the result furnished me with a larger sum of money than I had ever before possessed as the fruit of my own spontaneous exertions.

The limits which are usually allotted to a single article in the 'Penny Magazine' will only allow me to mention one more of the resources which my anxious desire for the means of purchasing books led me to adopt. My box of water-colours furnished the means employed on this as well as on the former occasion. I was struck, in the course of my perambulations, by the very unseemly appearance of the labels in windows which conveyed to the public the information contained in the sentences,—"Rooms to Let,"—"Lodgings for Single Men,"—"Mangling done here,"—"Plain Work done here,"—"Children taught to Read and Work,"—"Milk and Cream sold here,"—&c. &c. I could not but think that the persons who had such labels in their windows, badly spelt and meanly written, would willingly give a penny or halfpenny to have them correctly and showily done in coloured Roman letters. I therefore prepared a considerable variety of such as were the most commonly wanted; and when I had a sufficient stock, placed them separately between the leaves of a book, and set forth with the intention that when I saw a very mean label in the window, I would offer for sale a smart one of corresponding import. Such was my purpose; and it was not until I came to the last and most essential point of the process that I discovered an insuperable difficulty. I speedily discovered in an obscure street the announcement of "Logins for Singel Men," conveyed in a manner in every way as execrable as, for my purpose, I could desire. The house also had a neat and cleanly look, and there was altogether an opportunity for the experiment, with the most encouraging prospects of success. But I felt perfectly unable to make the attempt. Deaf as I was, it seemed awkward, difficult, impossible to enter the house and explain my errand. Besides, how would the people receive me?—might they not turn me out of doors?—might they not abuse me?—might they not mock me, laugh at me? I walked up and down the street at least ten times, steadfastly purposing in my mind each time, that when I came to the house on the next turn I would go boldly in. But I could not; and thoroughly angry at my own infirmity of purpose, and almost in despair of ultimate success, I went away with an intention of renewing the attempt on the following day.

On my way home I scolded myself into courage, and became so ashamed at my own animadversions on my irresolution, that happening to pass a window in which I saw a very bad "Milk and Cream sold here," I went boldly in, without stopping to consider about it. Lest this energetic measure should be over-rated, however, I ought to mention that, at the same moment that I saw the label, I saw also an ancient spectacled dame, from whom nothing ungentle could be expected, seated inside the window, and employed in darning stockings. I entered and took off my hat; but then felt quite at a stand, how farther to proceed. I ought to have explained my errand; but I was at that time not only deaf, but had almost entirely lost the power of speech.

I had previously made up my mind as to the words it would be necessary to speak; and had rehearsed them over and over, until I felt that I should be able to produce them without effort. But I could not; my state of excitement and anxiety rendered me incapable of acting or speaking as I had intended. I placed my book upon the counter, and, to gain time to compose myself, turned over its leaves, as if looking for that which I knew perfectly well where to have found in a moment. I am sure that I looked deep burning red to the tips of my ears. As to the old dame, she laid down her stocking, and regarded me through her spectacles with much amazement. At last I took out the paper and placed it before her; and after having pointed to the one in the window, and then to that I produced, said, "This for a penny." After looking slightly at the paper, she spoke to me. For this I was not prepared by any of my previous calculations; but supposing she objected to the price, I said, "A halfpenny then." But she still continued to address me. I nodded assent to everything she said; but perceiving from her looks that her questions were not such as a simple assent would satisfy, I put my fingers to my ears in an agony of despair, to signify that I was deaf. The old woman's countenance immediately softened into a tender and grandmotherly expression, she lifted up her hands with compassionate surprise, and then, drawing out the till, produced the penny that I required; and not only so, but when I turned round, on reaching the door, to make my final bow, she beckoned me back, and motioning me to wait a little, left the room; she presently returned with a cup of milk and a piece of cake, which I ate with much satisfaction.

The end of the matter was, that I could never persuade myself to make another excursion with my labels; but I now and then obtained a penny by them from people living in my neighbourhood, to whom I was personally known. How I disposed of the funds thus acquired, must form the subject of another paper.

PRUDHOE CASTLE.

THE castle called "Prudhoe," formerly spelt "Prudhow," and more anciently "Prodhow," is situated in the county of Northumberland, on the south side of, and near the river Tyne, about eight miles from Newcastle: its name is descriptive of its situation on a commanding or *proud eminence*.

We have no distinct information concerning the origin of this castle, the earliest accounts in which it is mentioned describing it as already existing. Grose, however, fixes the date of its foundation somewhere about the year 627, and considers that it was rebuilt about the year 1060. These are the dates he gives in his Index, without explaining on what authority they rest. Camden thinks that the place is the Protolitia or Procolitia of the Romans, which was the station of the first cohort of the Batavi.

Subsequently to the Conquest, the castle fell into the possession of the family of the Umfravilles, who came into this country with the Conqueror. Robert de Umfraville, commonly called "Robert with the Beard," received from Henry I. the lordship of Redesdale, to be held for ever by the service of defending the county against thieves and wolves; and also the barony of Prudhoe, to be held by the service of two knights' fees and-a-half. In the reign of Henry II., A. D. 1174, Odonel de Umfraville made a gallant and successful defence of his castle of Prudhow against the forces of William, King of Scotland. This Odonel, according to Dugdale, "greatly oppressed and plundered his neighbours, in order to repair the roof of his castle of Prudhow, presuming on his own eminence, and the interest he was possessed of, by having married his daughter to one high in the King's favour." Richard de Umfraville, who came into possession of the castle in the fourteenth year of King John, was obliged to give it up to the King, together with his four sons, as pledges of his fidelity. He, nevertheless, put himself in arms among the Barons three years after, in consequence of which his castle and lands were given to Hugh de Baliol. In the next reign he obtained the restitution of this property; and at his death was succeeded by his son Gilbert, who is styled by our old chroniclers, "The famous baron, the flower and keeper of the northern parts of England." His son Gilbert was made Earl of Angus of Scotland, in right of his wife, and under that title was summoned to Parliament in the 25th of Edward I. It is remarkable that the lawyers of the time refused to acknowledge him as an Earl, because Angus was not in the English dominions; but they submitted when they saw the King's writ summoning him by that name. His grandson, the fourth Gilbert, presented a petition to the King and Parliament in the 25th of Edward III., in which he stated that he and his ancestors, time out of mind, used to have custody of all prisoners taken within the liberty of Redesdale, to be kept in his prison of Harbottle Castle; but this castle having become ruined in the Scots wars, he solicited for permission to keep his prisoners in Prudhoe Castle until Harbottle Castle should be repaired. The king having satisfied himself that the fact was correctly stated, and that the condition of Harbottle Castle was not owing to neglect, granted permission that such prisoners should, for a period of ten years, be kept in Prudhoe Castle.

This earl died without issue; but a son who died before him had been married to a daughter of Henry, the second Lord Percy of Alnwick; and it seems to have been in consequence of the settlement made at this marriage that the castle and barony of Prudhoe afterwards came into the Percy family. After the death of the earl, his widow Maude remained possessed of the property till her death, after which, Henry Percy, the first earl of Northumberland, the heir by the former settlement, and also, as it seems, the second husband of the countess, came into full possession of the castle and barony*, which have descended to the present Duke of Northumberland with no other interruptions than such as have been caused by attainders in different reigns. The first loss of the property by attainder took place very soon after its acquisition. The Earl of Northumberland, who has just been mentioned, was the father of the famous Hotspur, whose name Shakspeare has made so familiar to us. Their rebellion against Henry IV. occasioned the forfeiture of the property, which the king gave to his son John, Duke of Bedford, after whose death the Percies got it back again. The subsequent interruptions which their possession of the property received have no circumstances of sufficient interest connected with them to require recapitulation.

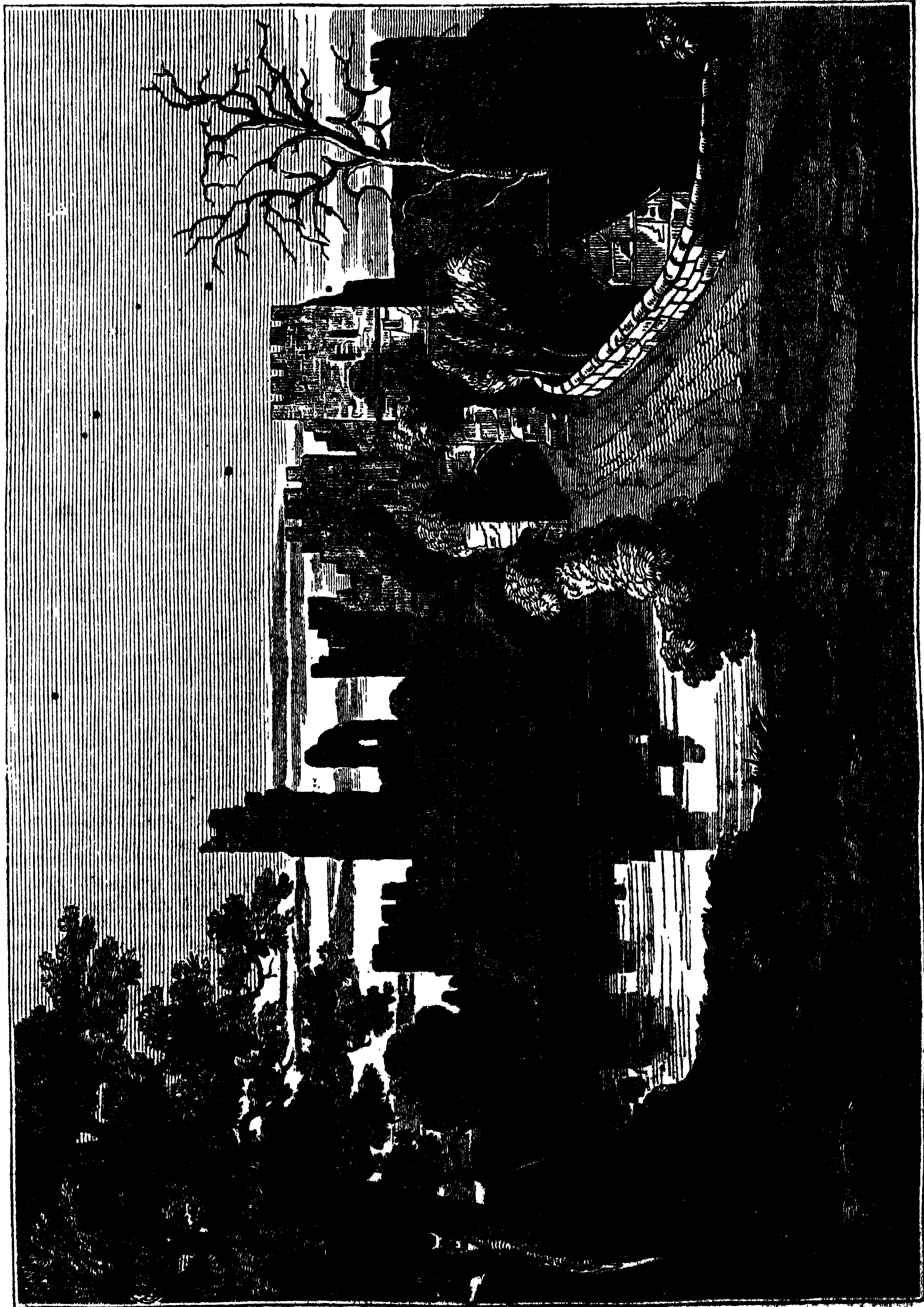
The last member of the noble family to which the castle belongs, who seems to have occupied it as a residence, was Henry Percy, the brother of Thomas, Earl of Northumberland, who is described as having been its inmate in the year 1557. Yet it could hardly then have been wholly habitable; for an account of the date of 1596, which Grose has given at length in the Addenda to his 'Antiquities of England and Wales,' describes the castle as being then old and ruinous, being walled about, and in form not unlike unto a shield hanging with one point upward, situate upon a high moat of earth, with ditches in some places, all

* Grose and Hutchinson differ as to the time and occasion of the Percies acquiring the property. We have taken the account of Grose, whose information was from documents in the possession of the Duke of Northumberland; the other adduces no authority for his statement.

seemingly wrought with man's hands. The site is calculated to contain, with a garden-plot and the banks, three acres. Within this site, but without the walls, was an elder chapel, which had been very fair and covered with slate. The entrance to the castle was on the south side, where there were two gates, " the uttermost now in decay." The other was " a tower, all massy work on both sides to the top of the vault; above the vault is the chapel, and above the chapel a chamber, which is called the wardrobe. It is covered with lead, but in great ruin, both of lead and timber; it is in length ten yards, and in breadth six yards, or thereabouts."

Instead of pursuing this old account, we shall draw from Hutchinson a description of the ruins as they appeared at a comparatively recent period, afterwards mentioning the alterations which have since taken place.

The castle of Prudhoe stands on the summit of a steep promontory, which communicates with the adjoin-



[Prudhoe Castle, Northumberland.]

ing grounds by a narrow neck and pass towards the south. The ground on which the castle stands is guarded by an outward wall towards the Tyne, built on the brink of the cliffs, which in this part are not less than sixty feet in perpendicular height above the plain which intervenes between the castle and the river: this wall is at intervals defended by square bastions. The entrance to the castle is from the south; and, on approaching, the structure when viewed from the heights still makes a very noble and formidable appearance. The narrow neck of land leading to the entrance was formerly cut through by a deep ditch, over which a draw-bridge gave access to the outward gate. This gate was originally defended by an outwork and a tower, as appears by their ruins. The superstructure of the inner gate is a lofty embattled square tower, about sixty feet high, now so mantled with ivy that the windows, loop-holes, and apertures are almost wholly concealed. To the right, the outward wall extended to some distance, terminated by a turret, the wall of which is embattled, and there the landscape is closed by a fine grove of stately trees. The outer wall to the left, from the inner gateway, extends to a considerable distance without any turret or bastion, over which several interior buildings, and among them the remains of a chapel, are discovered in all the confusion of ruin. Above all this rises a square tower, the ancient keep of the fortress, which overlooks the castle with considerable grandeur. It is twenty-five yards high, and eighteen in breadth, without ornaments or windows, but having a square exploratory tower at the south-west corner. The wall, still extending to the left, is, at its angle, defended by a square bastion with open loop-holes; it then turns northward, and is terminated by a broken circular tower, situated on the brink of the cliff.

The first gate admits to a covered way, about thirty paces in length, which leads to the inner gate, from which a sally-port opens on each side. The second gateway is formed by a circular arch, above which rises a high tower, the windows in which show that it consisted of three tiers of apartments. The roof of the gateway is arched in semicircles, with an aperture in the centre, from whence those in the upper chamber might annoy an enemy who had forced the gate.

From the inner gate the visitor enters an open area, which is now so blocked up with a farm-yard and tenement that it is not easy to obtain an idea of its original magnitude. It appears, however, that an open area had surrounded the great tower, which does not show any means of communication with the outworks, but seems to have stood apart on an eminence in the centre.

The outward wall was defended on the angle to the south-west by a large square bastion, with loop-holes; and to the north-west by a circular tower containing several tiers of low chambers, singular in their form and height: the inhabitants could not stand erect in them at the time of defence. Towards the river, and northward, the wall is guarded by several small, square bastions; and towards the south-east, a small mount, placed within the walls, overlooks the ditch which guards the southern side, and terminates at the brink of the cliffs. The large tower is in ruins, only the southern wall now standing; and not one bastion remains entire. A passage in the centre wall runs from one bastion to another. In several places steps ascend from the area to the top of the wall, which is broad enough to have allowed the armed men of the garrison to pass each other on it, protected by a parapet.

This is the substance of the description given by Hutchinson *. Since his day, time has made some alterations in the condition and appearance of the ruin. Part of the main tower has fallen down; but the Duke of Northumberland, being anxious to preserve as long as possible the remains of this very old baronial castle, caused the further progress of decay to be arrested by the repair of those parts which were in the most dilapidated condition. His intentions in this respect appear to have been judiciously and carefully executed.

* In his 'View of Northumberland,' 1776. Vol. i., p. 121.

REMARKS ON THE RELATION BETWEEN EDUCATION AND CRIME.

[Concluded from No. 202.]

IN the opinion of Dr. Lieber, the best test we possess, by which to estimate the effect of education in preventing crime, is by ascertaining the degree of education which every convict has obtained. If we should find that, in a country in which few individuals grow up without some school instruction, an immense majority of convicts are men who have not received a fair school education,—if thus ignorance almost always accompanies crime,—and if at the same time it is easy to account for the connexion between the two, on general and simple grounds, drawn from the nature of our mind and of human society in general, we are surely authorized to conclude that there actually does exist a necessary connexion between the two, and that by diffusing knowledge of a moral and scientific character, we may hope for a decrease of crime. Dr. Lieber does not seem to state very clearly the nature of that necessary connexion between ignorance and crime of which he speaks; but it is, in truth, nothing more than this, that the mind *must be filled* with something; and that if we omit to fill it with something of a good or negative character, it cannot remain altogether vacant, but will fill itself with something or other—perhaps with good, but more probably with rubbish, garbage, or things positively evil.

When Dr. Lieber first saw the statement to which allusion has been made, he addressed a series of queries to the wardens of the principal penitentiaries, with the view of learning the state of the convicts with regard to education. He found that there was no warden or superintendent of any penitentiary of note who did not consider want of education and ignorance as the most active agents in producing crime; and he states the following as the general conclusions in which his inquiries have resulted:—

1. Deficient education, early loss of parents, and consequent neglect, are some of the most fruitful sources of crime.
2. That few convicts have ever learned a regular trade, and if they were apprenticed to any business they have abandoned it before the time had lawfully expired.
3. That school education is, with most convicts, very deficient or entirely wanting.
4. That intemperance, which is very often the *cause* of loose education, is a most appalling source of crime.
5. That by preventing intemperance, and by promoting education, we are authorized to believe that a considerable diminution of crime would be effected.

The answers given by some of the superintendents of state prisons to the queries of Dr. Lieber are printed in the Appendix; and from them we have made the following extracts:

The first is from Mr. Wiltse, Agent of Sing-Sing State Prison. He prefaces the required return by these observations:—

"Whatever may be the fact in other countries, there can be little doubt that education and early application to some kind of business would have a powerful tendency to decrease crime. From my long intimacy with criminals, I have found that a large majority of convictions may be traced to the formation of bad habits in early life, and from a total neglect, on the part of their parents or guardians, in giving them education and confining their attention to some regular systematic business. You will observe, in the following return, that only fifty prisoners out of 842 have received anything like an education."

"There are at present 842 prisoners:

170 prisoners cannot read nor write.
34 „ have never been at any kind of school.

85	prisoners	know how to read, but not to write.
510		know how to read and write, but a large proportion of them do it very imperfectly.
42		received a good common English education.
8	„	went through a college.
485	„	have been habitual drunkards; about one-third of the above number actually committed their respective crimes when intoxicated.

A subsequent return from the same prison makes the following statement with respect to the convicts who had lost their parents at an early age:—

"Some few of them were unable to say when they had lost their parents, of whom, therefore, many must be supposed to have lost them early: of the others—

48 lost their parents before they were five years old.
72 after they were five years old, but before they were fourteen.
41 after they were fourteen, but before they were eighteen.

161 thus lost their parents before they had reached the age of eighteen; and this amounts to one-fifth of the entire number of prisoners."

The answer from the Rev. B. C. Smith, the chaplain of Auburn State Prison, furnishes very full and interesting information, of which the following is an abstract.

The number of prisoners is 670; and the first statement describes their circumstances as to education.

Of collegiate education	3
Of academical education	8
Of common education	204
Of very poor education	267
Without any education	188

The next statement describes their habits in respect to the use of spirituous liquors, which afford the common means of intoxication in the United States.

Excessively intemperate	258
Moderately intemperate	245
Intemperate	503
Temperate drinkers	159
Total abstinents	8
	670

The next statement, in reference to the same prisoners, enumerates miscellaneous particulars of considerable interest.

Under the influence of spirituous liquors at the time of committing their crimes		402
Had intemperate parents		257
Lost or left parents before 21 years of age		397
„ „ 17 „		262
„ „ 14 „		121
„ „ 10 „		58
Had been in the Sunday school previous to conviction		19
Had been habitual daily readers of the Bible		25
Had committed the Decalogue to memory		74
Had been strict observers of the Sabbath		11
Unmarried		318
Married		352
Lost wives by death previous to conviction	31	
Left wives previous to conviction	86	—117
Living with wives when arrested		235
Living without wives when arrested		435
Children belonging to married convicts		953

The remaining statements, of which we shall avail ourselves, are contained in a letter from Mr. Pilsbury, the warden of Connecticut State Prison. He states that:—"The whole number of convicts in Connecticut State Prison is 180. No convict here has ever received either a college or classical education; nor has any one of such education ever been an inmate of this prison."

The proportion of 8 in 100 convicts, when they came to prison, could read, write, and cipher.

The proportion of 46 in 100 could read and write.
„ 32 „ 100 could read only.
22 „ 100 could neither read nor write.
72 „ 100 never learnt any trade.
24 „ 100 began to learn, or learned, trades which they did not follow.
4 „ 100 have followed regular trades.
44 „ 100 committed their crimes while under excitement, caused by the use of ardent spirits.

There is no convict here who, before his conviction, could read and write, and who was of temperate habits and followed a regular trade.

Of the convicts who could read and write, and were temperate, there are	2 in 100
Of those who could read, write, and follow a trade	4 „ 100
„ who had never been married	64 „ 100
„ who were married and followed a trade	4 „ 100
„ who were married, followed a trade, and were temperate	0
„ who acknowledged themselves to have been habitual drunkards	75 100
„ not natives of Connecticut	40 100
„ deprived of their parents before they were ten years old	32 „ 100
„ deprived of their parents before they were fifteen years old	15 „ 100
„ those who are people of colour *	25 „ 100

In conclusion, Mr. Pilsbury explains the temporary circumstances which, some years ago, operated in causing that increase of convicts in the state prison which led the French commissioners and English gentlemen to conclude that there had been a corresponding increase of crime. He states that both crime and convictions are decidedly on the decrease in that state; and as an instance mentions that, since January, 1834 (he wrote in September), there had been a diminution of at least twenty in the number of convicts. The inference as to the increase of crime in Connecticut seems to be about as fair as it would be were a foreigner to infer the increase of crime in London from the increased number of trials and convictions which, under the new law, are likely to take place at the Old Bailey.

RUSSIAN VILLAGES.

Among the circumstances by which we are assisted in the endeavour to estimate the social condition of a people, there are not many which, taken singly, are more instructive than a view of their habitations and the accommodations which they afford. In this view of the subject, the dwellings of some distant nations have already been described in the 'Penny Magazine,' and for the same purpose we now present our readers with the following account of the houses in Russia. In this account, the imperial palaces and the mansions of the great will engage less of our attention than the cottages of the peasantry and the houses of the middle classes †; because the differences by which the Russians are distinguished from other nations will, of course, not be so distinctly marked in the former as in the latter.

The writer's impression with regard to Russian villages, and the cottages of which they are composed, was much less favourable when he actually saw them than that which his present recollections convey. The reason is, that, in the first instance, he was fresh from England, and Russian villages certainly suffered very much in the only comparison he was then able to make. But, since then, his acquaintance with the villages of Mohammedan Asia has inclined him to regard those of Russia with greater favour than before; for they gain more in this comparison than they lose in the other. This is perhaps one instance out of many in which a person's estimate of a people or a country becomes more just in proportion as his sphere of observation is enlarged.

A Russian village generally consists of one long and broad street, at the end of which is the church. The

* In this state, blacks are to the whites as 3 to 100.

† There is a necessity for using some such term as this, although it is commonly stated that there is no "middle class" in Russia. But as we may hereafter again employ this term in speaking of Russia, it is well to mention, once for all, that although there may not be in that country any class precisely analogous to what in England we call the middle class, yet still there is a middle between the extremes of Russian society, considered by itself; and it is to that middle that we refer.

cottages and the church are entirely constructed with wood, and even the street is frequently laid with the trunks of trees. Nothing can therefore be more perfectly wooden than a Russian village. This is true also of the large majority of the towns, though, in a few of the most considerable, brick is coming into use. Dr. Lyell, in his curious 'Essay on the Origin and Progress of Architecture in Russia,' mentions that the authors of the ancient Russian chronicles, in place of saying, to *build a town*, say, to *cut a town*, as we say, to cut a beam; as probably it cost the peasants less trouble to erect their humble habitations than to go to the forest, fell the timber, and transport it to its destined place.

The wood is employed in these erections with a prodigality calculated, in the first instance, to amaze a stranger who is aware of the comparative economy with which timber is employed in most other countries. The trees are not generally cut into boards, but, being barked and divided into requisite lengths, are laid upon one another, morticed together at the various angles, and the interstices filled with moss and clay. This use of wood is quite as much a matter of choice as necessity. There is a very decided preference among the Russians for it as a building material, and the use of it is not at all confined to the inferior classes of society, although the nobility and persons in good circumstances do not employ it in the primitive and wholesale manner we have just mentioned. The affection for wooden houses has lingered much longer among the superior classes than their imitations of other countries and their fondness for display might have prepared a stranger to expect. It is even stated by Storch that, about thirty-five years ago, it was not unusual for people of good fortune, even at Moscow, to build a wooden dwelling for their own particular use adjoining to their brick mansion, thus compromising the difference between state and convenience. There is, in fact, a very general impression, even among the nobility, that houses of wood are much more healthful than those of brick or stone, an impression in which they are perhaps not much in the wrong, particularly in such a climate as that of Russia. It is certain that such houses are warmer, which is a consideration of much importance in so cold a country. They are, besides, of comparatively small cost, are easily and speedily erected, and, from the simplicity of their construction, admit of being readily altered. Even when of a superior description, they also admit of being transported from one place to another. Dr. Clarke has the following anecdote on this point:—

"They speak of moving a house in this part of the world as a very trifling undertaking. When Sir Charles Gascoine went from St. Petersburgh to preside over the foundry at Lugan, he paid a visit to a gentleman about twenty-seven miles distant from the establishment. Finding him excellently lodged, in a well-furnished, handsome, and very convenient house, 'I wish,' said he, 'I could have such a building erected for me at Lugan!' His host replied, 'If you admire my house it is at your service, exactly as you see it; and I engage to place it for you at Lugan in the course of the week!' A bargain was concluded between them; the house was moved; and Sir Charles, who informed us of the fact, resided in it when we were in the country."

A Russian cottage of the common sort is generally of a form nearly square, consisting only of a ground floor, with a steep roof covered with thatch or with shingles. The gable end is towards the street, and the roof projects greatly over the house. The light is admitted through two or three apertures in the walls, which may be closed occasionally with shutters. Sometimes, however, there is a small window of glass, or of bladder, oiled linen, or paper. There are no chimneys, but the smoke finds its way through the apertures in the walls in the best manner it can. The peasantry seem to have a great aversion to chimneys. Dr. Lyell mentions a Russian gentleman who caused the cottages at one of his villages to be furnished with them, but they were all demolished the following year during his absence. One-fourth of the single room which composes the interior, is occupied by an oven, which not only serves to warm the house and to cook victuals, but the top serves as a sleeping-place. If the family is too large to find sleeping accommodation on the top of the oven, a number of boards are joined together so as to form a great shelf, which is fixed on a level with this top to accommodate the remainder.

The furniture of these rooms consists of benches placed against the walls, a table, dishes of pottery and wood, and some iron utensils. The most showy article in the room is what is called the Bogh. This is generally the representation of some sacred person, and not unfrequently is intended to be an image of the Deity himself. In size and splendour it varies with circumstances, but the figure, as well as the frame which contains it, is always as resplendent with tinsel and bright colours as the owner can afford to make it. We do not know whether Dr. Clarke is right in saying that there is not a room in the empire without such a representation, but we certainly cannot recollect having ever entered any room in the house of a Russian without observing one or more of these representations. Lamps are continually kept burning before them; and every one who enters the room before attending to anything else, makes obeisance to the Bogh by taking off his hat, and bowing profoundly three times, crossing himself rapidly between each bow. These representations, and the ceremonies performed before them, are so continually brought under the notice of a stranger, both within doors and without, that it is quite impossible to avoid the mention of them in noticing Russian habitations and modes of life. The cottages, which will come under a stranger's observation in travelling between Petersburgh and Moscow, will be found in many villages to correspond with this description; but in general the best built villages in the empire occur on this road, and the traveller would be mistaken in drawing any general inference from what he sees there. The cottages in the greater proportion of villages will be found of a superior order to those we have described. They are larger and higher, have more than one room in the interior, and are more neat externally and more convenient within. A good cottage of this description is certainly a picturesque object, particularly while new. When old they are rather unsightly, as the wood is never plastered or painted, and it acquires a dingy and cheerless appearance with age.

On advancing towards the south of European Russia, wood becomes comparatively scarce, and the wholesale use of timber in building, which had previously been displayed, is then impracticable. The walls of the cottages are then built with mud and faced with boards, or, as more frequently happens, the sides are of wicker-work plastered over. The fronts of these cottages are often ornamented with neat carved-work, and the shutters painted with representations of flowers. In general form and arrangement these cottages do not materially differ from those which have been already described. In the Ukraine, the village habitations stand detached within wattled enclosures; and the walls being whitewashed, the villages have, taken on the whole, an appearance which reminds an Englishman more strongly of his own country than anything which he has seen or will see in the Russian empire.

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THE ORNITHORHYNCHUS PARADOXUS OR WATER-MOLE.



[Ornithorhynchus Paradoxus.]

Among the strange and interesting productions of that little-explored country, Australia, not one is so anomalous, so wonderful, such a stumbling-block to the naturalist, as the *ornithorhynchus, platypus*, or, as it is termed by the colonists, the *water-mole*. Its first discovery created the utmost surprise; nor has the feeling much abated. The ornithorhynchus is essentially aquatic in its habits, frequenting the more tranquil or currentless portions of the rivers, in the banks of which it excavates its burrow to a considerable depth. If we examine the animal we shall see how well it is adapted for such a mode of life. The total length of the adult ornithonhynchus is about one foot six or seven inches; the body is long, reminding one not only in shape but in colour of the otter. It is covered with a double coat of fur, like aquatic mammalia in general: the outer vest consists of long, fine glossy hair, thickly set, which in some individuals assumes a crisped appearance; beneath this, close to the skin, is a layer of short soft fur, forming an almost water-proof wadding. The tail, which is broad and flattened, terminates abruptly, and is covered above with longer and coarser hairs than those of the body; the under surface of the tail, however, is almost destitute of covering;—at least the hairs are short and thinly set.

The limbs are remarkable for their strength and shortness; the anterior pair especially are very muscular, and the feet well adapted for burrowing, notwithstanding their being largely webbed. The toes are five in number, and terminate in strong blunt claws, capable of scratching the earth with great facility; the web which intervenes between the toes is of a tough leathery consistence, and from its extending beyond the claws might seem to be an impediment in the way of these instruments being fairly and effectually used. It would appear, however, that being loose it falls back, (being perhaps voluntarily retained so,) while the creature is engaged in its laborious task of burrowing, so as not to interfere with the due application of the claws. The advantage of this broad web in an aquatic animal, or one that spends so great a portion of its existence in the water, is very apparent. The hind feet are smaller than the anterior, but also webbed, though the membrane does not extend beyond the roots of the claws, which are sharp and longer than those of the fore-feet. On the hind leg of the male there is, as its peculiar characteristic, a strong sharp spur, the use of which does not appear to be very easy of explanation. It is certainly not used as a weapon of offence; nor are the scratches made by it, during the struggles of the animal, on the hands of those who endeavour to hold it, attended with the slightest ill

consequence. Formerly this spur was supposed to be a poisoned weapon, by which dangerous, if not fatal wounds were inflicted. This is most certainly not the case. It appears that the mistake arose from the misapplication of English words or expressions by the aborigines.

The most singular part of the ornithorhynchus, however, is the head; at least as regards the external configuration of the animal. Instead of terminating in a snout, as in other mammalia, it is continued into a *beak* resembling that of a *duck*, being broad, compressed, and rounded at the lip; the mandibles of which this beak consists are covered with a cartilaginous or leathery membrane—the outside of the upper mandible being greyish black—the palate flesh-colour; the under mandible is flesh-colour within, and whitish externally. The edges of both are soft, and the lower, which is shorter and narrower than the upper, has its sides internally channelled with grooves like those of a duck, but larger and wider apart. At the base of the beak a loose leathery flap projects from each mandible, and may perhaps form a protection to the eyes, while the animal is engaged in searching for food with the beak plunged deep in the mud. True teeth there are none; there are, however in each mandible, on either side, two horny appendages without roots,—one tuberculous, and at the base of the mandible fairly within the mouth,—the other forming a long narrow ridge on the mandible itself. The tongue is short and thick, and covered with *papillæ*. The eyes are small but bright; and the orifice of the ears is capable of being closed or opened at pleasure. The flesh of this strange animal, though rank and fishy, is eaten by the aborigines, to whom nothing indeed is unacceptable. The question, whether the ornithorhynchus is *viviparous*, or *oviparous*, is not yet settled; one thing is certain, that if the young are produced alive, they are at least excluded from eggs, hatched, as in many of the snakes, while yet within the body of the mother: and this indeed, as recent observations and investigations tend to show, appears to be the fact. Into the physiology of the animal, however, we shall not attempt to enter, our present object being to describe its habits and manners.

The caution of the ornithorhynchus, conjoined with the acuteness of its senses, renders it a difficult mark for the sportsman; nor, except it be severely hit about the head, is it easily killed. If only wounded, it dives, and endeavours to make for its burrow, or rises amidst the dense herbage which luxuriates in such localities. When the animal is watched playfully sporting on the water, the slightest noise or movement is the signal for its disappearance,—nor, even when undisturbed, does it remain many minutes without diving;—the moment of its reappearance (the gun being levelled in the interim) is the only time for the sportsman. Mr. G. Bennett informs us that "these animals are seen in the Australian rivers at all seasons of the year; but a question may arise—whether they do not, in some degree, *hybernate;* for they are more abundant during the summer than in the winter months. When going down, they allow themselves to be carried along by the force of the stream, without making any exertion of their own; but, when swimming against the stream, all their muscular power is exerted to the utmost to stem the force of the current, and it is generally done effectively. I recollect, however, seeing two making repeated and ineffectual attempts to pass a small waterfall during a rapid current of the river, and, after many persevering efforts, they were unable to attain their object." The habits of these animals have been detailed by no one so fully and satisfactorily as by the writer above referred to. He procured, indeed, with considerable trouble, several living specimens, at different times, with a hope of being able to bring them to England,—a hope which was always frustrated. On one occasion, having opened a burrow to the extent of upwards of ten feet, (its course still continuing up the bank,) he captured one of these creatures, which, disturbed from its repose, had ventured to leave its nest at the extremity of the burrow, in order to reconnoitre the cause of the tumult. "When," says Mr. Bennett, "I held the unfortunate *platypus* (ornithorhynchus) in my hands, its bright little eyes glistened, and the orifices of its ears were expanded and contracted alternately, as if eager to catch the slightest sound, while its heart palpitated violently with fear and anxiety." It soon, however, became more reconciled to its situation, and "was placed in a cask with grass, mud taken from the river, and water, and everything that could make it comfortable under existing circumstances." At first it endeavoured by scratching to get out, but soon became tranquil, contracted itself into a small compass, and sank to sleep. In the night it was again restless, but was asleep in the morning, "the tail being turned inwards, the head and beak under the breast, and the body contracted into a very small compass." This seemed its usual position during sleep; sometimes, however, the beak protruded. When disturbed, it uttered a low, soft growl, not unlike that of a puppy; this noise also accompanied its exertions to escape.

The burrow from which this individual was taken "ran up the bank in a serpentine course, approaching nearer the surface of the earth towards its termination, at which part the nest is situated. This is sufficiently large to accommodate the old animal and its young. No nest had yet been made in the termination of this burrow, for that appears to be formed about the time of bringing forth the young, and consists merely of dried grass, weeds, &c., strewed over the floor of this part of the habitation. The whole extent of the burrow, from the entrance to the termination, I found by actual admeasurement to be twenty feet." Yet no heaps of earth near the burrow were observed by Mr. Bennett, nor does he know, as he says, "how, in the progress of excavation, the animal disposes of the loose mould:" perhaps it carries it to a distance, he goes on to observe, as the mason-wasp and carpenter-bee.

Arriving at Lansdown Park, Mr. Bennett observes, "Here I availed myself of the vicinity of some ponds (also inhabited by these animals), to give it a little recreation. On opening the box it was lying in a corner contracted into a very small compass, and fast asleep. I tied a very long cord to its hind leg, and roused it, in return for which I received numerous growls. When placed on the bank it soon found the way into the water, and travelled up the stream, apparently delighting in those places which most abounded in aquatic weeds. Although it would dive in deep water, it appeared to prefer keeping close to the bank, occasionally thrusting its beak (with a motion similar to that of a duck when it feeds) among the mud, and at the roots of the various weeds lining the margin of the ponds, and which we may readily suppose to be the resort of insects. After it had wandered some distance up the chain of ponds, feeding about the shallow water and mud near the banks, it crawled up the bank, enjoyed the luxury of scratching itself, and rolling about. In this process of cleaning itself the hind-claws were alone brought into use for the operation,—first the claws of one hind-leg, then those of the other. The body being so capable of contraction was readily brought within reach of the hind-feet, and the head also was brought so close as to have its share in the universal cleaning process. The animal remained for more than an hour cleaning itself, after which it had a more sleek and glossy appearance than before." This individual never became very familiar, and always manifested the greatest reluctance to be placed in its

box,—from which it escaped one night and was not again to be discovered. December appears to be the month in which the females bring forth their young;—this fact was asserted by the natives, and confirmed by the experience of Mr. Bennett, who procured from a burrow on the banks of the Murrumbidgee river, on the 8th of that month, three young ones, one inch and seven-eighths in length, nearly naked, and which could not have long been born.

On the 28th of December Mr. Bennett visited a noble sheet of water, called Koroa, formed by the Wollondilly river, on the banks of which the burrow of an ornithorhynchus was discovered. In opening it, "the aborigines used their hard pointed sticks, and although the ground was firm, they succeeded as quickly as we could have done with our spades." The method of laying open the burrow was by making holes upon it, four or five feet apart, a stick being passed up the burrow as the work proceeded, in order to ascertain its direction. From this burrow he procured two full-furred young ones, a male and female, beautifully sleek and delicate, most probably having never left the burrow. They lived in captivity about five weeks: their liveliness, their frolics, and gambols affording a constant source of interest. "One evening both the animals came out about dusk,—went as usual and ate food from the saucer,—and then commenced playing with one another like two puppies, attacking with their mandibles and raising the fore-paws against each other. In the struggle one would get thrust down, and, at the moment when the spectator would expect it to rise again and renew the combat, it would commence scratching itself, its antagonist looking on and waiting for the sport to be renewed. When running, they are exceedingly animated,—their little eyes glisten, and the orifices of their ears dilate and contract with rapidity; if taken into the hands at this time for examination, they struggle violently to escape, and their loose integuments render it difficult to retain them." They were found to sleep in various positions,—mostly rolled up like a hedgehog, into a ball, the tail being wrapped over the bill and head,—sometimes in an extended attitude. Their periods of sleep and activity were very irregular, but the dusk of evening in most cases called forth all their energies. During the night they were generally active: night or evening we suspect to be the favourite period in which the ornithorhynchus seeks its food, wanders along the bank, constructs its burrow, and gambols with its mate.

With regard to the nourishment of the young all we shall here say is, that there is every reason to believe the newly-born offspring receive their sustenance in the same manner as in other examples among the *mammalia*. Two large mammary glands secrete a milky fluid in great abundance, which exudes through a number of small tubes in an *areola* or bare circular space on each side of the abdomen. "*Milliken* (milk) come all same as from cow," said a native to Mr. Bennett, who states that milk, and afterwards insects mixed with mud, form the diet of the young: "they first have *milliken* (milk), then *make patta* (eat) bread," &c. as a native expressed himself when asked the question.

A POOR STUDENT'S LITERARY EXPENDITURE.

[From a Correspondent.]

The circumstances related in 'A Poor Student's Literary Ways and Means,' as well as those to which I have still to request attention, would want much of the interest which ought to belong to them if they were understood as no more than points of personal history. I have no personal feeling to gratify in seeking to have these circumstances recorded in the 'Penny Magazine;' but I think they will not be without interest or utility if understood as illustrating some of the difficulties which a very poor boy has to surmount in acquiring the means of knowledge. So much of those difficulties—consisting in the want of money—as the former paper illustrated, refers to a state of things still present to many; but the illustrations I have now to offer of the difficulties which attended the advantageous disposal of a few pence for the purpose of acquiring information, refer, as I am most happy to know, to a state of things no longer existing.

When a boy was in circumstances which rendered such contrivances necessary as those related in the former paper, it will easily be imagined that he must have found great difficulty in allowing his pence to accumulate to an amount sufficient for the purchase of the books which he required.

When my desires extended beyond the books which single pence or halfpence could obtain, they ascended, in the first instance, to books about three-pence in price. About the year 1816, the only works at that price that presented higher claims than those of nursery-tales, were certain rather closely-printed tracts, in paper-covers, which generally contained either abstracts or reprints of popular fictions, and sometimes tales founded on the plays of Shakspeare and other early dramatic authors. These little books, taken altogether, formed the best and cheapest bargain which a book-purchaser could, in those days, make for three-pence: and it would be difficult to describe the anxiety with which I watched the very slow ascent of my finances to the required sum, and the eagerness with which I hastened to the book-shop when the three-pence was completed. The haste with which I disposed of my coppers on these occasions proceeded not merely from my earnest desire to possess the book, but also from the fear lest the pressure of my external wants should tempt me to some other application of my hoarded pence; which, as I knew from some occasional experience of the sort, I should afterwards bitterly regret. When I had the money, I was never long in deciding on the particular book which should be purchased; for in my many wistful visits to the shop-windows, I had always decided on the object of my next purchase long before I could obtain it. I thus had ample leisure to make my selection, nor was it ever made until the windows of all the book-shops in the town had been subjected to the most careful inspection.

In process of time—and the time was nearly simultaneous with the picture exertions recorded in the former article—my mind outgrew the sort of nutriment which any of the three-penny books I have mentioned could furnish; and I kept myself quite awake to seize any opportunity which might offer of securing stronger and better food. I seemed to discern such an opportunity when one of those itinerant book-venders who carry about from house to house publications in *numbers*, called with his portfolio at the room my parents occupied. This was immediately after the large profit I had made by exposing my pictures in the street during the fair; and I was busily occupied with my water-colours in replenishing my exhausted stock. The man, who was a very civil person, was not deterred by the humble appearance of the apartment and its occupant from displaying his stores before me, when he perceived that I was quite willing to inspect them. Oh! how my heart was delighted by the display of magnificence and varied wealth which this man's portfolio contained. There were various bibles, various histories, various poems. There was John Bunyan's 'Pilgrim;' 'Robinson Crusoe;' 'The Arabian Nights;' 'Drelincourt on Death;' 'Hervey's Meditations;' 'Pamela, or Virtue Rewarded;' 'The History of Henry, Earl of

Moreland;' and many more that I do not now remember, and could not here enumerate if I did. The feelings of high excitement with which I viewed these works, and their illustrative engravings, were soon sobered by the reflection that all the enjoyment, and all the knowledge, which might be derived from these books and from others with which the world abounded, was shut out from me. The effect to me was the same as that of a rich feast spread out before the eyes of a man famishing with hunger, but forbidden to partake. But might I indeed not partake? I conceived a vehement passion for a history of the 'French Revolution,' the first number of which was decorated with a gorgeous coloured portrait of the Emperor Alexander mounted on a white charger. I will not deny that this picture may have had much to do in influencing my affections; but I was also exceedingly desirous of acquiring information concerning the French Revolution, of which I knew nothing distinctly, although I had picked up some acquaintance with the leading facts from what I had occasionally heard in conversation before I became deaf, and from the allusions to them which I had since met with in books. But these numbers were priced at no less than one shilling each, which, as the numbers are usually taken up weekly, seemed an insuperable objection. The man, however, who noticed my longing lingering looks, and guessed the nature of my difficulty, suggested that I might if I pleased take up the numbers fortnightly instead of weekly. I closed with the proposal; because I happened just at that time to be the possessor of a shilling, and was then in sanguine expectation that my new undertakings would at least produce the required weekly sixpence.

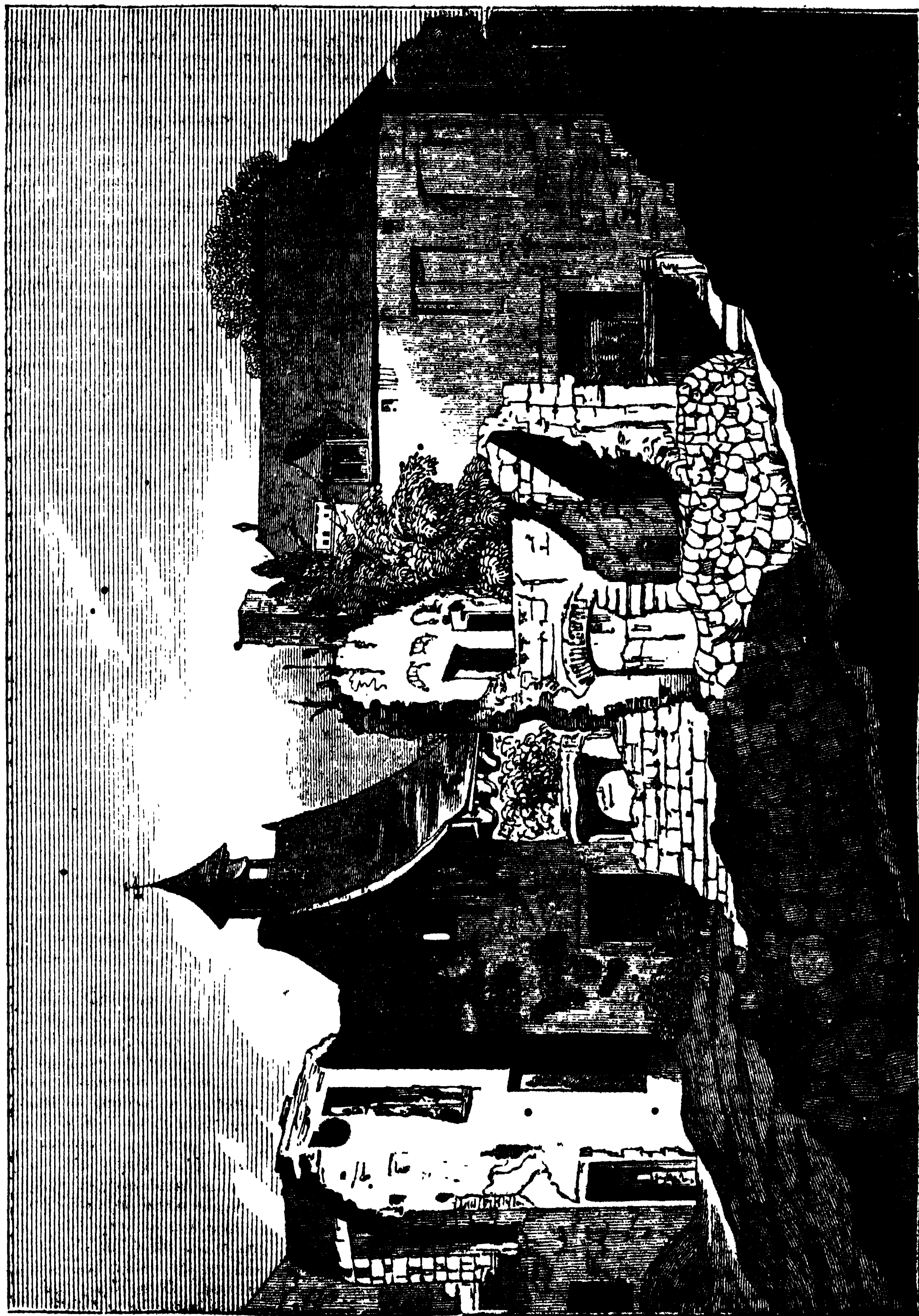
Before the fortnight, at the termination of which I was to receive the second number, had expired, I saw much cause to wish myself clear of the engagement into which I had entered. No previous reading had prepared me to be interested in the rather dry details about parliaments and "beds of justice," which the first number of this history comprehended: I also discovered that every number would not contain one of those fine plates which had formed so great an attraction in the first number. I learned that these plates would be few and far between; and as the letter-press was in large type and loosely printed, I could not but think it a hard bargain to go on paying a shilling for it without the pictures,—particularly as one of those threepenny books which I have before mentioned contained a greater quantity of reading than those stately but thin folio numbers, on which I was now to exhaust my resources. A stronger objection than either of these was, however, that I had not sufficient money to meet the demand, my speculations not having been crowned with such bright results as I had anticipated. Under these circumstances I ardently wished that the man might forget to call; but, as I hardly hoped this, I prepared a plain written statement of my difficulties to submit to his perusal when he should come.

He did not fail to come; and I was exceedingly confused, feeling that I had placed myself in rather an awkward position. He read my paper and looked rather serious. He was not, however, angry, as I had feared that he would be. He suggested that if I could not go on, the best thing would be to let him have back again the number I had taken, in order that the copy to which it belonged might not be spoiled; and that he would give me eight-pence for it. I agreed to this, and was so much delighted at being again free that I did not regret the four-pence I had lost by this transaction. The good-nature of this man, and the interest his portfolio excited in my mind, has given him a permanent place in my recollections. At intervals of years, I have continued to meet him in the streets of Plymouth with his portfolio under his arm, and on such occasions his nod and smile of recognition have always been most cordial.

I wish it to be borne in mind that, at the time to which this statement refers, books thus published in numbers, formed the only works which can be deemed to have been accessible to the humbler classes of the community. On entering the apartment of an artisan, it would have been difficult to find any books but such as had, in the course of years, been slowly and expensively acquired by this process. Leaving old books out of the question, it formed, in point of fact, the only means through which persons of narrow income could aspire to the possession of a useful or interesting book. Their dearness—for they were dear when the price which appeared small in the subdivisions, was regarded as a whole—caused them to be considered as articles of luxury, and as marks of relatively good circumstances; and bindings of mottled and highly-gilt calf-skin were bestowed upon them to render them tasty articles of furniture, too good to be used. And being thus smart ornamental articles, they were usually the first to be sent to the pawnbroker's on occasional emergencies, and, for the same reasons, were the last to be redeemed. To bring this home, let us see how I might *now* employ a weekly sixpence, which in those times would only have furnished me with about thirty-two loosely-printed octavo pages, sixteen of quarto, or eight of folio, being a portion of a work to be completed in from thirty to a hundred numbers, and perhaps containing a cut in every fourth number. The same sum would now enable me to obtain regularly the 'Penny Magazine,' one number; the 'Penny Cyclopædia,' two numbers; the 'Saturday Magazine,' one number; and 'Chambers's Edinburgh Journal,' one number; leaving me besides an overplus of a weekly half*penny*, which at the end of the month would more than enable me to obtain 'Chambers's Information for the People.' Thus for my weekly sixpence I should have five distinct publications, containing a large body of interesting information, and comprehending about eight times the quantity of printed matter which my sixpence would formerly have purchased. Besides this, instead of one engraving for every third or fourth sixpence which I expended, I should now have from eight to twelve neat and instructive cuts included with my printed matter; and at the end of the year I should be the possessor of six large volumes, containing altogether upwards of 2000 closely-printed pages, and comprehending from 400 to 500 engravings.

After this, it scarcely seems necessary that I should say any more to show that one of the most serious difficulties with which I and hundreds of poor boys have had to contend, in seeking to improve the mind and to acquire information, can scarcely be now said to exist. Great as my own difficulties were in winning an honest penny, I found it far more difficult to obtain an opportunity of expending that penny in a satisfactory manner. Interested as I am most deeply in the welfare and improvement of that great body of which I am myself but a particle, and to whose service I desire to consecrate my best exertions, I exult beyond measure in the change which has taken place for the better within my own time, and in the other and greater changes which I see before me. None but those who have known something of such struggles and difficulties as I have described, can well imagine the strong emotion which I sometimes experience as I view the windows of the numerous shops which, in the various cheap publications of the day, do now and ever must henceforth offer advantages the want of which formed so serious an obstacle to my own progress in the early part of my career.

HOUGOUMONT.



[Ruins of the Château of Hougoumont, at Waterloo.]

The name of this old Flemish mansion is intimately associated with the field of Waterloo; and though an interval of twenty years has somewhat mellowed the interest which the narrative of that eventful battle inspires, it cannot be read without the exciting recollection that on the issue of that day hung, probably, the fate or rather the repose of Europe.

The château (i. e. country seat, one of those continental residences which unite in them something of the natures of a castle and a farmhouse) was the residence of a Belgic gentleman. It stands on a little eminence near the main road leading from Brussels to Nivelles. The buildings consisted of an old tower and a chapel, and a number of offices, partly surrounded by a farm-yard. The garden was enclosed by a high and strong wall; round the garden was a wood or orchard, which was enclosed by a thick hedge concealing the wall. The position of the place was of importance in the plan on

which the Duke of Wellington had decided to receive the French, as it commanded the right of the British army, and admitted of being defended with advantage. Accordingly, on the night of the 17th of June, 1815, a number of troops were appointed for its occupation. The whole force amounted to about from 1400 to 1500 men, and were under the command of Sir John Byng. Immediately previous to the action 800 of the Nassau troops (sharp-shooters) were added to the garrison.

During the night of the 17th, (which, it will be remembered, was stormy and wet) the troops were busy preparing for the approaching contest by perforating the walls, making loop-holes for the fire of musketry, and by erecting scaffolding for the purpose of firing from the top.

The importance of Hougoumont was appreciated by Buonaparte as well as by the Duke of Wellington. If the château could have been carried, and at the same time the French had occupied with artillery the high road leading to Nivelles, it would have enabled them to push forward to the very centre of the British line, and might have materially influenced the success of the day. The battle of the 18th began therefore by the attack on Hougoumont. Three divisions, each consisting of 10,000 men, moved on to the assault.

The first division, commanded by Jerome Bonaparte, reached the place about half-past eleven o'clock, and advanced to the attack with great impetuosity. After a short but violent struggle, in which an immense number were slain, they retreated. The second division, commanded by General Foy, instantly renewed the combat, and assailed the place with terrible fury. So tremendous was the onset, that the Nassau troops, who had been stationed in the grove of Hougoumont, abandoned their post, and the château itself must have been carried, but for the stubborn and desperate courage of that detachment of the Guards to whom the defence was intrusted. "A French officer," says Sir Walter Scott, "followed by a few men, actually forced his way into the court-yard of the château, but all these were bayoneted. Colonel Macdonnell, the brother of our Highland chief Glengarry, was obliged to fight hand to hand among the assailants, and was indebted to personal strength no less than courage for his success in the perilous duty of shutting the gates of the court-yard against the enemy."

Napoleon himself says (Historical Memoirs) "While every thing was preparing for this decisive attack (the grand assault which he meditated), Prince Jerome's division on the left commenced a fire of musketry at the wood of Hougoumont. The action soon became very warm, the enemy having unmasked nearly forty pieces of artillery. General Reille advanced the battery of artillery of his second division, and the Emperor sent an order to General Kellerman to advance his twelve pieces of light artillery: the cannonade was now extremely brisk. Prince Jerome carried the wood of Hougoumont several times, and was as often repulsed from it: this spot was defended by a division of the English Guards, the best troops of the enemy. It was gratifying to see them on the right, as it rendered the grand attack on the left more easy. The division of General Foy supported Jerome's division; prodigies of valour were performed on both sides; the English Guards covered the wood and the avenues of the castle with their dead, but not without selling their blood dearly. After many vicissitudes, which occupied a great part of the day, the whole of the wood remained in the possession of the French; but the castle, in which some hundreds of intrepid English troops defended themselves, opposed an invincible resistance. The Emperor ordered it to be attacked by a battery of eight howitzers, which set fire to the barns and roofs; this soon rendered the French masters of that position."

But the French were not, at any period of the day, masters of this position. "Had it been lost," remarks a lady, who was a near observer of the agitating scenes of the month of June, and visited the spot a few days after the battle, "the victory to the French would scarcely have been doubtful*." This, of course, is very questionable; yet still the post was of great importance, and it was defended with a bravery commensurate with such a conviction. In vain did the assailants renew effort after effort to carry it, they were not only unsuccessful, but were driven out of the wood of which they had actual possession. "About one o'clock, six companies of the Guards under Colonel Hepburn drove back Foy's division with immense loss, again occupied the wood, and reinforced the little garrison in the château." This was a tremendous encounter. Men fought hand to hand with a sort of savage fury. After this repulse, the ardour of the assailants somewhat slackened; but at no period of the day was the attempt to gain possession of Hougoumont abandoned. The attack on it lasted from half-past eleven in the morning until eight at night, about which time occurred Napoleon's last grand effort,—the onset of the Imperial Guards,—the memorable charge of the British troops,—and the final rout of the French army.

The loss of the French in attacking Hougoumont was enormous. The division of General Foy alone lost about 3000 men; and the total loss is estimated at above 10,000 in killed and wounded. The British Guards lost, in killed and wounded, in the defence of Hougoumont, nearly 900 men, of whom 28 were officers; the foreign troops, Nassau and Brunswickers, about 100.

"Hougoumont," says Sir Walter Scott, "(a name bestowed by, I believe, a mistake of our great commander, but which will certainly supersede the more proper one of Château-Goumont) is the only place of consideration which was totally destroyed. The shattered and blackened ruins of this little château remain among the wreck of its garden; while the fruit-trees, half torn down, half fastened to the walls, give some idea of the Dutch neatness with which it had been kept ere the storm of war approached it. The garden-wall being secured by a strong high hedge, it is supposed the French continued the attack for some time before they were aware of the great strength of their defences."

"Its broken walls," adds the lady from whose work we have already quoted, "and falling roofs presented a most melancholy spectacle; not melancholy merely from its being a pile of ruins, but from the vestiges it presented of that tremendous and recent warfare by which those ruins had been caused. Its huge blackened beams had fallen in every direction upon the crumbling heaps of stone and plaster, which were intermixed with broken pieces of the marble flags, the carved cornices, and the gilded mirrors that once ornamented it.

"A poor countryman, with his wife and children, inhabited a miserable shed among these deserted ruins. This unfortunate family had only fled from the spot on the morning of the battle. Their little dwelling had been burnt, and all their property had perished in the flames. * * * It is a remarkable circumstance that amidst this scene of destruction, and surrounded on all sides by the shattered walls and smoking piles of this 'ruined and roofless abode,' the little chapel belonging to the château stood uninjured. Its preservation appeared to these simple peasants an unquestionable miracle; and we felt more inclined to respect than to wonder at the superstitious veneration with which they regarded it." Sir John Sinclair remarks that the tower was burnt, and that the fire penetrated to the chapel. "The guide," says he, "pointed out to me a

* Circumstantial details of the Battle of Waterloo.

crucifix of wood which the fire had attacked, and as it was damaged only in a part of the foot, it was supposed to have been saved by a miraculous interposition of Providence."

Mrs. Trollope, who, in 1833, visited Waterloo, says: "The ruin of the Château of Hougoumont is, I think, the most interesting point of all. The struggle was there, perhaps, the fiercest; the battered walls, the dismantled and fire-stained chapel, which remained standing through all the wreck, and where they show a crucifix that, as they say, repeatedly caught fire but never was consumed, the traces of attack upon attack—still renewed but still resisted—altogether bring the whole scene before one with tremendous force. In the garden of Hougoumont is one solitary tomb, raised over the body of Captain Blacknor. He was buried exactly where he fell—

'With his martial cloak around him,'

and his monument is the only one so erected."

EFFECTS OF LEGISLATIVE RESTRICTIONS ON INTEMPERANCE.

In the Supplement to the monthly part of the 'Penny Magazine' for February, we took occasion to state the signal failure that attended the measures which were adopted about a hundred years since, by the legislature, for the purpose of putting some check on the evil of drunkenness. The unprofitable and, indeed, injurious effect of those measures, which are in many respects similar to those now recommended to the notice of parliament, does not appear to have conveyed all the instruction it is calculated to afford to the advocates of temperance in our own day. The committee to which the House of Commons referred the consideration of the subject in the last session obtained so much valuable and instructive information that we are glad the subject received, to that extent, the attention of parliament; but so convinced are we of the mischievous effect which legislative restrictions are likely to produce that—although we yield to none in our anxiety for the diminution of the evil—we feel obliged to rejoice that no measures were founded, or are likely to be founded, on the Report of the committee. In our view, the value of the Report consists in its affording materials which enable us to estimate the extent and character of the evil, and in showing that legislative enactments on the subject are not likely to produce the good effects which are so sanguinely anticipated from them. We do not deny that something might be done to modify the character of the evil, but that any penal measures could be devised which would operate in seriously diminishing the amount of the evil, and the quantity of sin and shame it produces, we do very much doubt.

As we perceive, however, that the attention of the legislature is again to be drawn to this subject, and that petitions are in progress soliciting its interference, we think this a seasonable opportunity of inquiring in what manner legislative enactments have operated in countries where they are of the most stringent character, and where they are the most rigidly enforced. For this purpose we must refer to Mohammedan countries, where, as it is well known, the use of inebriating liquors is severely prohibited by the Koran, which, so far as its enactments go, constitutes the public law; and where every one is from infancy brought up in the belief that a single breach of this precept compromises his safety in the other world, while he knows that it renders him liable to severe and summary punishments in this. In point of fact, every Moslem is a total abstinent, or what is called in temperance societies a *tee-totaler* by profession, and is taught to consider his being such as one of the badges of his superiority to the rest of the world. Consequently, the streets in such countries offer none of the facilities for intemperance which are so abundant in our own: no gin-shops exhibit their splendour in the midst of the ruin and wretchedness they occasion; nor do any beer-shops stand always ready with open doors to receive those who require more diluted and less reprobated stimulants than those which gin-shops offer. Here, then, we have just the opportunity we could desire of observing the effect of such legal restrictions as so many persons in this country wish to see adopted. It is particularly desirable that this matter should be properly stated, because the example of the Moslems has been expressly held up to our imitation. In the report of a speech recently delivered at Liverpool by a gentleman who is entitled to our respect and our best thanks for the ability and zeal with which he has laboured to promote temperate habits among the people, we find the following passage:—

"He became a land traveller. He passed through Egypt, Palestine, Mesopotamia, and Arabia, and ultimately settled in India, where he lived six years. In the course of these journeys he passed twice over-land to India, and twice back. It occupied him three years. The distance he travelled could not have been less than 30,000 miles. He visited the populous metropolitan cities of Cairo, Damascus, Aleppo, Ispahan, some of them containing more inhabitants than London*; and the number of people he saw could not have been less than 3,000,000; but in all the time occupied in travelling 30,000 miles, he had not seen twenty drunken persons. To these countries the remarks he had made respecting the European nations would apply with tenfold force. The Europeans had at least Christianity for the basis of their religion, and they had something like political freedom; but these people were Mohammedans,—they were subject to uncontrolled despotism,—their women slaves, absolutely and entirely slaves; and yet, notwithstanding their gross and miserable inferiority in religion, in political rights, and in social and domestic life, they were still our superiors in this matter of sobriety. When he landed at Portsmouth, he had not spent three hours, not to say three years; he had not gone thirty yards, not to say 30,000 miles; he had not seen 300 people, not to say 3,000,000, when he saw fifty drunken persons†."

This would certainly leave us to infer that the strong legal restrictions of the Mohammedan law have been attended with complete effect; and it is not to be denied that the historical part of the statement is in its literal signification quite accurate. One may traverse the streets and bazaars of Turkish or Persian cities for days together without encountering a single drunken person; but any inference from this circumstance in favour of the sobriety of the people is entirely at variance with the impression which a very slight knowledge of their real character and actual habits will convey. The truth of the matter is, that the severity of the law, and the certain punishment that attends the open breach of it, makes drunkenness a secret sin in Moslem countries, and consequently gives to the streets that sober and decorous appearance by which a stranger is, for a time, liable to be deceived into the belief that the inhabitants are a most temperate people. This would be a very erroneous impression; and a more careful view will make it manifest that while inebriety is at least as common as in England, it is followed by consequences quite as injurious to the body and estate, and is attended with greater enormities of conduct.

The sots of Mohammedan Asia may be comprehended in two classes. The first are those persons

* This is rather a serious error. The most populous of these cities (Cairo) does not contain one-fourth the po[pulation of] London, unless "London" denotes the City as distinguished from the rest of the metropolis.

† 'Preston Temperance Advocate,' for November 1834.

who are so far intimidated by the spiritual and temporal denunciations against transgressors, that they dare not act against the letter of the law, and therefore have recourse to some solid substitute to which it is understood that the objections of the law do not apply, or do not apply so strongly as to liquid inebriants. Hence the extensive use of opium. The effects of that drug, and the mode and extent of its employment, having been separately described in a former Number of the 'Penny Magazine*,' to which we beg to refer, it is only necessary to remind the reader that its effects are at least as injurious to the human constitution as any which spirituous liquors can produce,—that the use of it, once adopted, becomes one of the most unconquerable of human habits,—that it equally incapacitates a man for the business and duties of life,—and that its employment is not confined to men in Moslem countries, but women also have recourse to it, and not unfrequently administer it to their children. In estimating the temperance of such countries, it is strange indeed that the use of this intoxicating substance should be overlooked. It is our sincere opinion that in this country any measures which should have the effect of rendering spirits dear or difficult to obtain, would, among other results, drive the persons for whose benefit such measures would be intended, to some substitutes to which the prohibition does not apply. There are a considerable number of substances which might be thus employed; and that opium would acquire a prominent place among those which would be adopted we have every reason to conclude, when it is recollected that its inebriating properties are already well known, and that it is already in use among many to whom gin is, for the time, difficult of access. That is to say, that it is already to some extent a substitute for the more costly and palatable inebriant; and it well becomes us to consider whether we are prepared to compel the substitution to any larger extent than that to which it has already gone. It deserves to be remarked, that in some parts of Turkey where the infraction of the law against drinking is winked at by the local authorities, the use of opium has very much declined, or almost disappeared; while in other parts of that country and in Persia, where the letter of the law is more rigidly enforced, the practice of opium-eating has not at all diminished.

The conflict between inclination on the one hand, and imperative duty on the other, is often attended with another result, particularly among persons of credit in the superior walks of life. They profess to be victims to diseased constitutions, and to be subject to all sorts of internal complaints, in the hope of persuading some medical man to declare that the use of wine, &c., as medicine, is necessary to them. When they have contrived to obtain this sanction, it is equally ludicrous and distressing to hear their loud professions of regret that the state of their health should render the use of a forbidden thing necessary. This hypocrisy and pitiful trifling with the solemn obligations of their religion and their law, is perfectly disgusting; but we may safely reckon it among the inevitable consequences of a severely restrictive system.

It is our impression that legal prohibitions or restrictions would indeed have the effect of inducing many who now use inebriants in moderation, to abstain altogether; but that on the other hand it would also have the effect of rendering many persons intemperate who are now but moderate occasional drinkers. It ought to be borne in mind that the word "temperance" means the moderate and seemly use of a thing, and is distinguished from "abstinence," which denotes a total forbearance. We are not sure that this distinction is always understood or kept in view; and therefore we mention it. Now, as it regards the Moslems, we may safely say that in respect to the employment of inebriating drinks, or solids, there is no such thing as "temperance" among them. There are but two classes, abstinent persons and intemperate persons. This requires to be explained.

A very large number of persons, both in Turkey and Persia, overcome the scruples of conscience and the dread of shame, which leads others to abstain altogether, or makes them content with opium, or leads them to seek the sanction of a physician: they indulge freely in wine and in arrack, or *rakie*, a strong spirit distilled from the skins of grapes, figs, &c. When the scruple has once been overcome, they omit no opportunity of indulging in their potations, and they do so to an extent which would astonish even the hard drinkers of England—an extent only limited by absolute inability to drink more, or by the exhaustion of their supply. The reason of the excess to which they carry the matter, when they drink at all, is very obvious. The restrictions under which they labour preclude them from moderation. They know that with the first sip they have transgressed their law, and have rendered themselves amenable to all the penalties of such transgression. In such a case as this the barrier is everything: that being broken through, they plunge into the most appalling excess, in the conviction that, to use their own phrase, "there is as much sin in a glass as in a flagon." The same compromise with conscience is familiar to our ears in an English phrase, "as well be hanged for a sheep as a lamb." We are persuaded that this will everywhere be more or less the result in proportion as the barrier is more or less distinctly defined. If we distinctly mark the barrier, there will be on one side of it a large body defying a law which its own severity has made impotent; and when, as in this instance, we so narrow the boundary between permitted and forbidden things, that with one light and easy step the Rubicon is overpassed, we so far afford facilities to sin and crime; for nothing can be more true than that a man who has once been led to the loss of his self-respect, or has in any one instance passed the line which separates those who transgress the law from those who are obedient to it, is brought into a state in which there is danger that his transgressions will not be limited to that offence in which he originally sinned. It therefore behoves us to be in the highest degree careful that we do not draw too fine a line between that which we allow and that which we prohibit. There would on this score be some danger in the pledge of the *tea-totalers* in temperance societies if that pledge were not voluntary.

On the other side of the barrier—under a severely restrictive system,—will be a large number of persons who, like the opium-eaters in the East, will, either from necessity, or from the desire to stand well in the world's esteem, have recourse to other stimulants than those to which they would otherwise have applied. These two classes—those who transgress both the letter and spirit of the law, and those who transgress the spirit but observe the letter,—constitute together a mass of intemperance under the severely restrictive system of Mohammedan Asia, fully equal, at the least, to that which in this country it is hoped that restrictions will diminish. We do not hope this; but we do hope and are persuaded that the causes which *have already* operated in diminishing intemperance will continue their operation, until drunkenness becomes a vice known only among thieves and vagabonds.

* Vol. iii., p. 397.

*** The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

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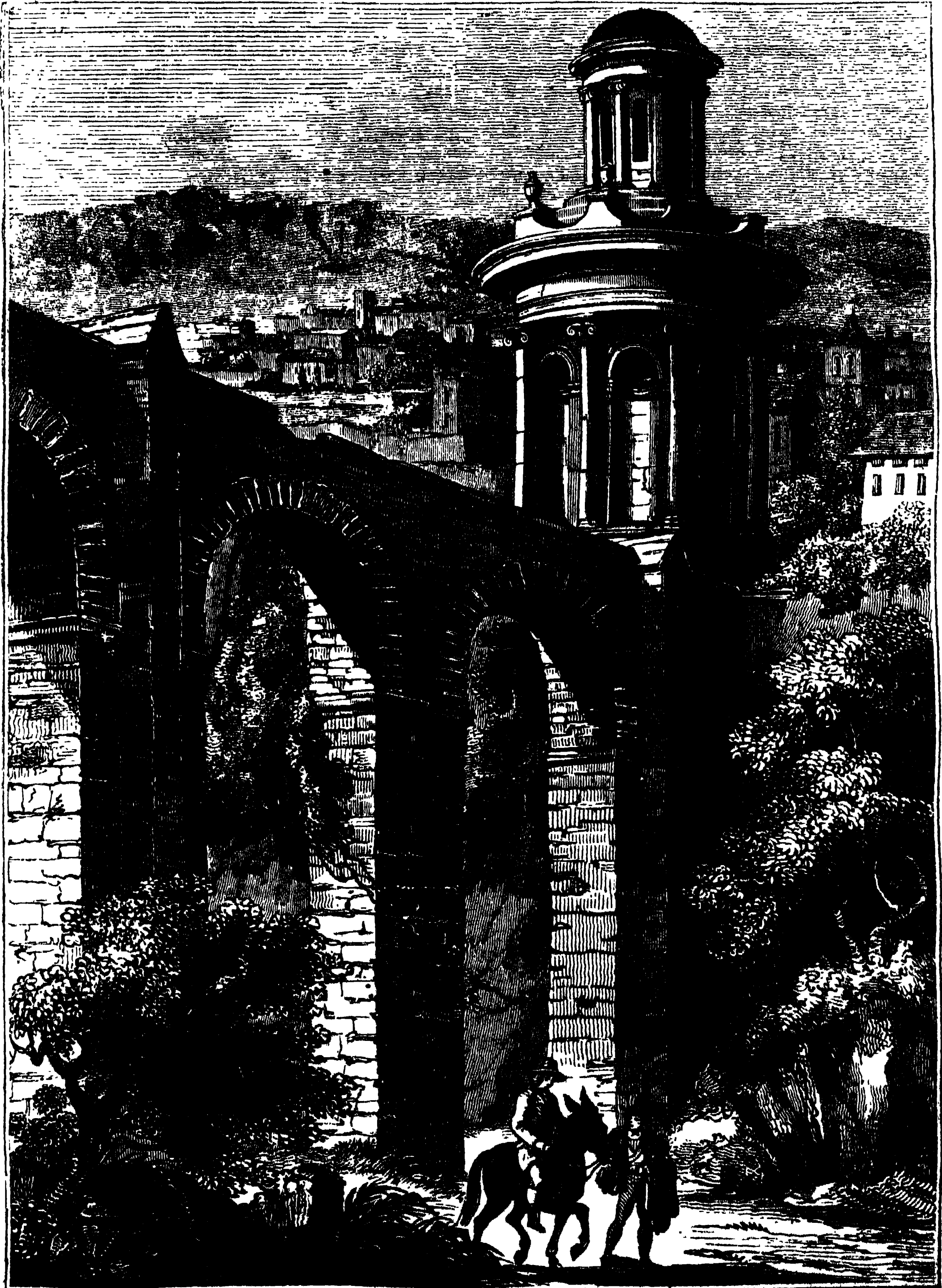
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ROMAN AQUEDUCT AND CASTELLUM AT EVORA, IN PORTUGAL.



[Roman Aqueduct and Castellum at Evora.]

We recently gave our readers a view and a short description of the beautiful Temple of Diana at Evora, and we now present them with some more interesting antiquities which exist at the same place.

Our engraving represents a portion of the fine old Roman aqueduct, terminating towards the town with a circular castellum. These castella or castles answered more than one purpose. In the long water-courses and successions of aqueducts that supplied ancient Rome, they were erected at certain distances from each other as lodging places for soldiers, who were charged with the protection and guard of the important works; and hence, in all probability, they derived their military name. Some of them were occupied by masons and builders constantly at hand to keep the aqueducts in repair, while others again merely served as fountains or conduits where the water could be procured and drawn off by means of pipes and cocks. In this latter sense, the old grey-stone building that used to be seen some years ago in the Pentonville fields near to White Conduit House, which place of entertainment took its name from it, was once a castellum, or, as we call it, a *conduit*, a term that equally implied an aqueduct or the pipe or cock at which water was drawn off. The tower at Evora is also a castellum of this sort. In the interior of it there is a reservoir to hold part of the water conveyed across the arches; and some pipes emit this water on the spot, whilst other tubes carried under ground convey the fluid to different fountains and cisterns within the town. In too many instances in Spain, Portugal, Italy, Dalmatia, and other countries where the ancient Romans left almost imperishable evidences of their sway, in the stupendous buildings they erected, works of similar public utility have been suffered to go to decay and become useless; but here both aqueduct and castellum are well preserved, and as useful as ever; and the modern inhabitants of Evora still drink the wholesome water that was brought to the place by art and industry some eighteen hundred years ago. The aqueduct is built of stone mixed with hard marble-like mortar or cement. The castellum is most neatly constructed of brick, and coated over with the almost imperishable Roman tonica or plaster. These ancient bricks are altogether different from ours. They are flat like paving tiles, seldom more than two inches thick, and as hard and as thoroughly baked as the solid clayey substance called terra-cotta. They are laid down horizontally, or on their flat sides, and the cement or mortar placed between them binds them together with wonderful strength and compactness. Walls and even vaulted roofs composed of these materials are frequently found in the most perfect state of preservation, when the parts of the same or some contiguous ancient edifice that were built of stone are mouldering away or in ruins. The fragility—the perishableness which attaches to most of our modern brick buildings has nothing in common with the ancient Roman walls of brick, to the quality of which, in a country where stone and marble are scarce, our builders and architects would do well to turn their attention. The walls of the castellum at Evora are as perfect as if they were built yesterday, and indeed much stronger, for the cement hardens with time.

The plan of this building, which will be better understood from our engraving than from words, is circular: its greatest circumference, not embracing the surrounding columns, is thirty-eight feet. The columns, which are eight in number, are of the Ionic order. In each intercolumniation there is a niche; and a door in one of these niches gives access to the reservoir of water and the interior of the building. The second story of the Castellum is decorated with Ionic pilasters, between which are apertures to admit light and air. The top of the building is covered with an hemispherical dome.

There is another and more modern object at Evora which generally attracts the traveller's notice, and which is considered by many of the natives as far more curious than their Roman antiquities. When Mr. Murphy was there about half a century ago, and busily employed in making drawings of the temple and aqueduct, he was asked whether he had seen that wonder of Portugal, the human-bone or charnel-house in the Franciscan Monastery. On replying that he had not, his interlocutor, with the pride of a Cicerone, said, "Well then, Mr. Stranger, you have seen nothing! so come along with me." Murphy went; and after passing through the body of the Franciscan church, was ushered into a gloomy, horrible vault, over the archway of which he read the following somewhat startling inscription:—

"Nos os ossos que aqui estamos
Pellos vossos esperamos;"

or,—"We whose bones are here are expecting your bones."

This dismal apartment is about sixty feet long and thirty-six wide. On each side of the nave are four large, broad piers, and all the eight piers are completely covered over with grinning skulls and human bones, which are fastened upon them with a hard and rough stucco. Such exhibitions of the miserable remains of mortality are repugnant to our feelings; and they produce no soberness of thought or salutary awe, being visited merely as curious shows.

Evora is about eighty English miles from Lisbon, lying a little to the south of the high road from that capital to Badajoz and Madrid. Besides several Roman remains, some interesting Celtic ruins and altars are found in the neighbourhood of this ancient city.

WINE.

[From a Correspondent.]

Various causes concur in producing that tendency to excess in drink, which is unfortunately so prevalent. Among them may, perhaps, be reckoned the laborious and close application, in some form or other, of almost all classes in this country, whether directly engaged in business or not; the gradual extinction of what may be called "the amusements of the people;" the nature of our climate, unfavourable to out-door relaxation; the scanty supply of cheap fruit, except for a short season in summer, &c. &c. It is by no means meant to be insinuated that industry is an evil, or that popular amusements and the like are unmixed good, but merely (to use a comparison) that the bow long drawn to the head of the shaft is too liable to relax itself violently in the opposite direction. Ardent spirit is thus resorted to as a cheap and ready stimulant, when any thing in the shape of indulgence is permitted. A comparatively small quantity of such liquor soon affects the head; perhaps the drinker sat down without any intention of being guilty of excess, but, self-command being gone, drunkenness, with all its distressing consequences, ensues, and eventually these coarse stimulants are found to amount to a higher price, in time and money, than even choice wines.

Going a step higher, and looking round among that class which consumes Spanish and Portuguese *wines* (as they are called), though the scenes of 'Gin Lane' may not indeed be witnessed, yet both the head and the health are too often affected. The reason is obvious. A few glasses only of these wines (as they come to us), from the quantity of brandy contained in them, produce an unwholesome excitement, which leads to injurious consequences.

It is manifest that temperance societies, however excellent, do not reach the seat of the evil. Akin to them in principle, a *counteracting* measure may be re-

commended as apparently of much importance, though hitherto almost wholly neglected by the friends of national sobriety. This measure is,—the substitution of a light, cheap, and pleasant beverage for the odious drinks so common in this country. People of all classes will consume fermented liquor of some kind. Everywhere drinking, of one description or other, is always associated with holiday-making, and with relaxation generally. No valid reason, indeed, can be produced against the use of a jug of wine any more than against making a hearty meal on roast beef. Each admits equally of abuse, as well as every other bounty of Providence, and both must be reckoned in the class of luxuries, not in that of necessaries. The overloading of the stomach, or the intoxication of the brain, are the evils to be deprecated, not the moderately liberal use. It is even desirable, for obvious reasons, that the enjoyment of wholesome and pleasant drink, in moderation, should be extended to all classes of society. There can be no impropriety in referring on this occasion to the many passages of Scripture in which the use of wine is spoken of with approbation, while its abuse is reprobated. Our nation having, from various causes, (the hereditary quarrels with France, a principal one,) been almost forced into the use of liquors which contain much alcohol, a small quantity of any of them affects the head (as above indicated), and thus persons become inebriated without being aware of their danger. It is quite unfair to say, that we are resolved to get drunk on something, and to contrast us with other nations in this respect. Livy and other ancient writers describe the Gauls, the ancestors of the modern French, as being much given to intoxication; as eagerly buying wine of the Italians at any price within their reach,—not excepting that of selling their children in order to procure the beastly gratification. This was before the vine was cultivated in France. The Italian dealers most probably brought heady wines, with a view to take advantage of the drunken moments of their customers. The French of our day, having at hand a light beverage procured from their own vineyards, are, and their nation long has been, eminent for sobriety. The progress of civilization, it is true, must not be lost sight of in the account, yet the uncounteracted tendency of the people is not the less observable. The South Sea Islanders, again, notwithstanding their exquisite climate, and many other advantages, fall into shameful intoxication when they can obtain ardent spirits. Every one who has spent much time in the wine countries of Europe must have observed that intoxication is very rare there, and at the same time that the inhabitants consume a good deal of wine. These two conditions are perfectly compatible. The wine drunk in those districts is indeed "wine,"—not the "liquid fire" sent to us from Spain, Portugal, and Madeira. The Spaniards and Portuguese, nations proverbial for sobriety, would not themselves touch the wine prepared by them for the English market,—a preparation adapted to a factitious taste.

Since, then, it is neither possible nor desirable wholly to dispense with fermented liquors, it becomes an object of no slight importance to place before consumers of all classes, or before as many as possible, a beverage at once palatable, light and cheap,—a pleasing but safe stimulant. Such a beverage offers itself in the commoner wines of France, Spain, Italy and Germany. It may be objected that the national taste is not inclined to such drink, and that it is altogether ridiculous to think of wine becoming an article for the consumption of working people. To this it may be answered, that our forefathers used and liked wine resembling that here recommended; and that there appears to be no reason why a labourer should not drink and relish wine as well as his employer. The labourers in wine countries drink nothing else. Should agreeable light wine ever be rendered accessible to the artizan, he will not be long in preferring it to gin or grog. There certainly is no natural antipathy in mankind to the juice of the grape, or sympathy with that obtained through the barley-corn. All such tastes may be both introduced and supplanted. Witness the introduction of potatoes, porter, ginger-beer, &c. Tea is an instance strikingly in point. No article of consumption was ever more opposed at first (and that too by men of eminent virtue and ability), or at one time seemed less likely to come into general use. Every one is aware that it contains no nutriment; yet, from its exhilarating and gently-stimulating qualities, it has now become justly acceptable to all classes. Tea has also much contributed to keep under intoxication, and on the same principle on which light wines are here recommended. Coffee has also been useful in the same way, and perhaps tobacco.

It is well known that drunkenness, though once too common, is now rare in the highest classes of society; and this happy change is unquestionably due, in a great measure, to the adoption by them of pure unbrandied wines. Many persons suppose that all wines but Port, Sherry and Madeira, with one or two others, are meagre and acid. There cannot exist a greater delusion. Numerous districts in Europe are both able and of course very willing to supply us with palatable and wholesome wines of low price. These could be sold in England at a rate not beyond the means of the mechanic, and at the same time remunerating to the several dealers,—a rate much below what is too often now bestowed on gin and other vile liquors. A few enterprising wine-merchants, unshackled by the routine and prejudices of trade, might, by a personal examination of the wine countries, introduce to their countrymen an excellent and cheap beverage, and, at the same time, open for themselves a lucrative branch of commerce. The enterprise—the first exertion only—is wanting, and the persevering merchant would truly earn for himself a civic crown. Bottling would probably not be necessary. The wine might be kept for use by the retailer in small casks, and drawn off at once for the consumer like beer. The practice of mixing wine with cold water (as is usual in wine countries) would in time be adopted. It may be said that such wine would not bear the sea voyage: this is altogether untrue, as the experience of many a private importer for domestic use amply proves. The richer classes also would derive much benefit from this commerce, since light wines for them would thus be obtained cheaper and in greater variety. The present uniform duty is not, however, an insurmountable obstacle. As the subject seems well entitled to the attention of our rulers, government might materially forward the end in view by adopting a graduated scale of duties on wine; and should the matter be properly followed up, there can be no doubt that such a change would ere long take place. A uniform duty of 5*s.* 6*d.* per gallon is a great check to the introduction of cheap wines for general consumption. Merchants, under the operation of such a fiscal regulation, naturally enough confine themselves to importing the highest-priced and most noted wines. An *ad valorem* scale is no doubt attended with inconvenience in the collection, but the importance of the desired end renders it well worth while to encounter this, or even a greater, difficulty. There is also another consideration of no small weight. An extension of the wine trade would lead, inevitably and as a thing of course, to a corresponding introduction of our manufactures into the wine countries. This latter object, confessed by all to be so desirable, would be much more readily attained by taking their commoner wines than by all the commercial treaties ever devised.

The use of spirits otherwise than medicinally is of comparatively recent introduction. When something less heavy than malt liquor was looked for, in the progress of wealth and its concomitants, the rum of our colonies and the brandy and hollands so readily smuggled over the Channel from the continent, afforded too ready a resource. French wines required too much room for extensive smuggling, and a perverse policy excluded them in the regular way of commerce. Our own distilleries, too, soon completed the mischief.

It may be said that malt liquor is as good a beverage as can be used. Taken with meals habitually by all classes, and especially by the laborious, it is very salutary, and this is its proper use; but it is not a holiday drink, and when used on such occasions too often stupefies and becomes the cause of as much intoxication as gin itself. Its effects are almost precisely the reverse of those of tea, and this is a pretty good test. In short, in England it has been tried as a preventive of intoxication and found wanting. Tea and coffee, too, be it remembered, though both most excellent in their way, cannot well be used cold, nor without the additions of milk or sugar, or both. Wine requires no addition, or none beyond cold water. It is worth while to quote here the opinions of a man of great practical wisdom in all such matters,—the late Mr. Jefferson, President of the United States. "I am persuaded, that were the duty on cheap wines put on the same ratio with the dear, it would wonderfully enlarge the field of those who use wine, to the expulsion of whiskey. The introduction of a very cheap wine (St. George) into my neighbourhood, within two years' past, has quadrupled in that time the number of those who keep wine, and will ere long increase them tenfold. This would be a great gain to the treasury and to the sobriety of our country."—Jefferson's Mem., &c., vol. iv., p. 78. Again,—"I rejoice as a moralist at the prospect of a reduction of the duties on wine by our national legislature. It is an error to view a tax on that liquor as merely a tax on the rich. It is a prohibition of its use to the middling class of our citizens, and a condemnation of them to the poison of whiskey, which is desolating their houses. No nation is drunken where wine is cheap; and none sober where the dearness of wine substitutes ardent spirits as the common beverage. It is, in truth, the only antidote to the bane of whiskey. Fix but the duty at the rate of other merchandise, and we can drink wine here as cheap as we do grog; and who will not prefer it? Its extended use will carry health and comfort to a much enlarged circle. Every one in easy circumstances will prefer it to the poison to which they are now driven by their government. And the treasury itself will find that a penny a piece from a dozen is more than a groat from a single one. This reformation, however, will require time. Our merchants know nothing of the infinite variety of cheap and good wines to be had in Europe; and particularly in France, Italy, and the Grecian Islands."—Ibid. p. 320.

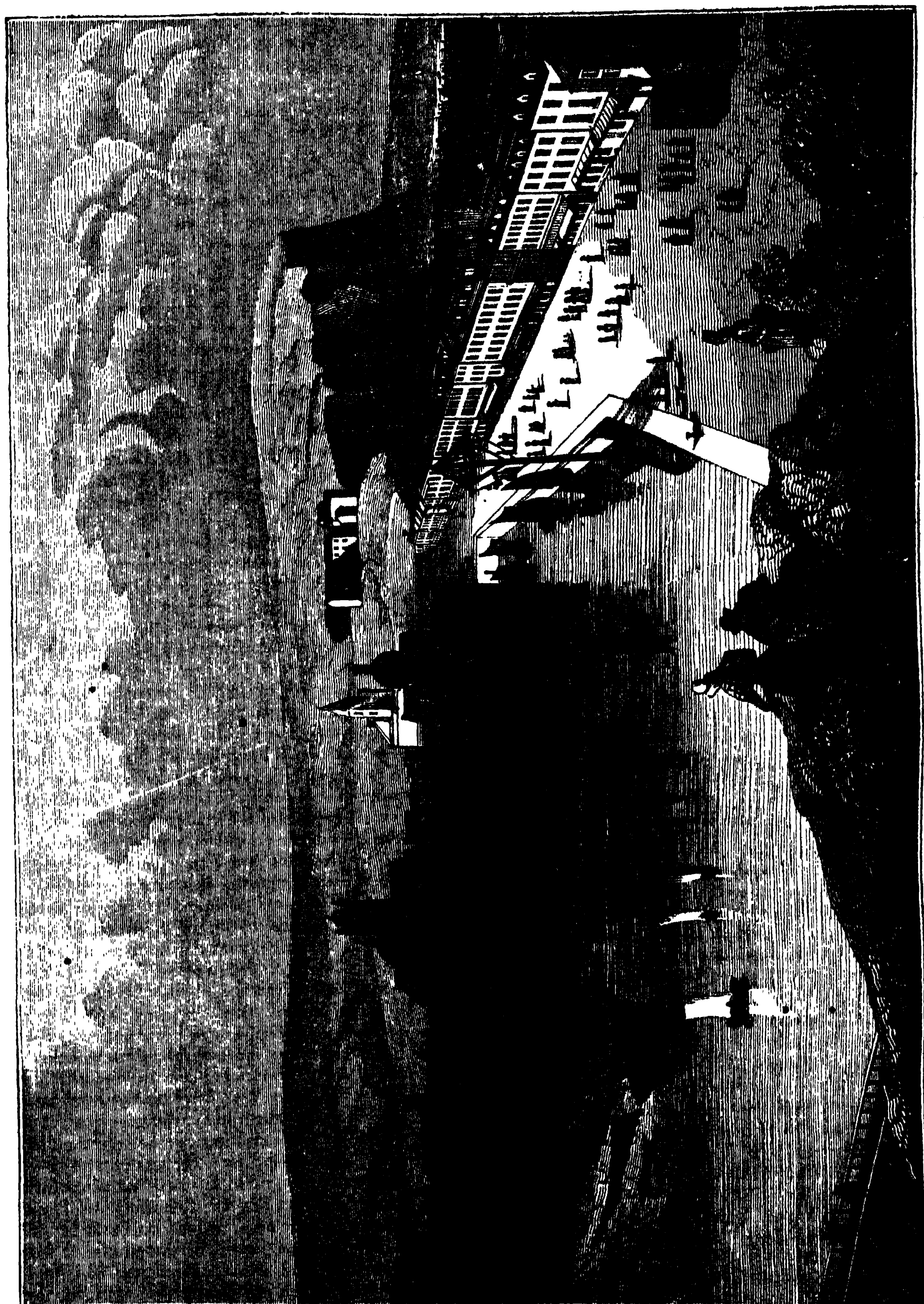
Perhaps the government of a country cannot more effectually discharge its high duties than by a careful attention to such matters; since, according to the way in which they are treated, they become the germ of so much good or evil to all classes. Akin to the same subject is that of relaxations, or amusements generally for the working-class, and that next to them. The abridgment of these things may be carried too far, and probably has been so in this country and in the United States. We reproach the French and some other nations with their fondness for spectacles and diversions. Their meetings, however, are ever accompanied by courteous manners and sobriety,—our own by coarseness, and too frequently by intoxication.

DIEPPE.

Dieppe is a sea-port town of France, situated between two rocky mountains, at the mouth of the river Arque, which empties itself into the British Channel. In the ancient division of France into provinces, Dieppe belonged to Normandy; but the more recent division into departments renders it one of the towns of the Lower Seine, and the principal place of a district of its own name. It is distant 90 miles N.W. from Paris, and 140 miles S.S.E. from London.

The town is not very ancient, and originated with the fishermen who constructed their cabins at the mouth of the Arque, which afforded an advantageous situation for the prosecution of their employment. It began to figure in history towards the end of the twelfth century, it having been destroyed and its vessels burnt, in the year 1196, by Philip Augustus, during the quarrels between him and Richard Cœur de Lion. The houses seem, however, to have been soon rebuilt. and the other disasters repaired. Previously to the reign of Charles VII., Dieppe, with the rest of Normandy, remained in the possession of the English; but, in the year 1433, it was taken by the French; and although, about nine years after, Talbot besieged it with powerful artillery, his attempts to retake it were rendered abortive by Dunois, who threw himself into the place, and was speedily succoured by the Dauphin, son of Charles VII. In the fourteenth century Dieppe had already become celebrated for its industry and its commerce; and at a later period, under Francis I., it possessed an immense maritime commerce. Ango, the principal of its privateering chiefs, covered the sea with his vessels, and sent armed squadrons, at his own expense, to chastise the powers which had insulted his flag, and treated with their ambassadors as an equal. Some of the most remarkable commercial enterprises of those times emanated from Dieppe. In 1335 the inhabitants fitted out an expedition to the coasts of Africa, where they afterwards built forts and established a considerable trade. France also owed to them its first establishments in Canada, and the foundation of Quebec; and they have the honour of numerous geographical discoveries which we cannot here enumerate. The prosperity of Dieppe underwent a serious interruption in 1694, when it was reduced to ashes by an English squadron, which threw into the town 3000 bombs and 4000 balls. The castle, two churches, and a few houses, alone escaped the effects of this terrible bombardment. The town was, however, shortly rebuilt with the assistance of the government; and the opportunity was taken to give it more regularity and greater uniformity of appearance than it previously possessed.

Notwithstanding the variations of temperature at Dieppe, the air is considered to be generally pure and healthy. The water for common use is abundant and of good quality: there are 68 fountains dispersed through the town, fed by an aqueduct, which is cut in the rock to the extent of upwards of three miles. The town itself is, upon the whole, handsome and well built. The streets, which are wide and straight, are for the most part composed of good and uniform houses, which are generally built with bricks, covered with tiles, and furnished with balconies. The high street, which is more than a mile in length, is particularly worthy of notice. Nevertheless the general effect of the town is spoken of as unpleasing to an English eye. The fronts of the houses are dingy, and the windows disfigured with clothes hung out to dry The streets, too, are indifferently paved, and are cleaned by gutters which run down the middle with cuts on each side leading to the houses. But these are circumstances not at all peculiar to Dieppe, and are only calculated to strike an Englishman on his first arrival in the country. The town has two suburbs, one of which,



[Dieppe Harbour.]

called Le Paulet, is inhabited principally by fishermen and sailors. The principal ecclesiastical structure is the parish church of St. James, one of those which escaped the bombardment of 1694; it is a fine edifice surmounted by a tower, from which the coast of England can be seen distinctly. There are two other parish churches and a place of worship for Protestants. The place contains two hospitals, a communal college, with a library of 3000 volumes, a navigation school, a theatre, barracks for infantry, &c. Dieppe has a good stone bridge of seven arches: there are several small squares, and the ramparts afford a very excellent promenade. The castle of Dieppe is situated to the west of the town; it occupies a strong and picturesque situation, commanding at the same time the town, the valley, and the sea. Its high walls are flanked with towers and bastions; but it is, taken altogether, an irregular and badly-fortified structure. The harbour is at the opposite or eastern end of the town: it is formed by the mouth of the Arque, and though tolerably commodious, is narrow, not being fitted to contain more than 200 vessels of from 60 to 400 tons burden. It is in the form of a semi-circle, and has a depth of eighteen feet at high water, and is furnished with two very fine moles of strong brick-work, about half a mile in length.

A very excellent establishment of sea-baths was formed at Dieppe in the year 1822. It consists of two distinct parts; the first is an erection upon the beach destined to receive the bathers, forming a gallery about 100 yards in length, decorated at each end with elegant pavilions. The tents placed upon the sand, and the bathing-machines, appertain to this part of the establishment. The other part consists of a hotel, in which are lodgings particularly appropriated to the strangers who frequent the baths and who increase in number every year. In the town, opposite the theatre, there is another establishment, containing hot, cold, and shower baths, of both sea and soft water. This establishment also contains a magnificent ball-room, a fine coffee-room, and a reading-room. There are not, in any country, many towns better provided than Dieppe in facilities for bathing, the importance of which to health and comfort has been hitherto sadly overlooked in this country.

The manufactures and maritime commerce of Dieppe suffered greatly during the last war between this country and France; but a revival has since taken place, though we have no materials estimating to what extent. A great deal of cooper's work is done in Dieppe, barrels being much in demand for the fisheries during the salting-season: there are sugar-refineries, rope-manufactories, and yards for building merchant-vessels. But the principal manufactures of the place are in ivory and lace. The toys, of very superior workmanship and reasonable price, which are manufactured at Dieppe from ivory, horn, and bone, and which have always been considerably in demand, furnish employment to a rather large section of the population. The manufacture of lace is less considerable now than in former times, although the establishment of a school for the manufacture has given activity to this branch of employment. The following particulars relate to the manufacture as it existed previously to the French Revolution; but they are still, we believe, applicable in details though not in extent. In 1788 the manufacture afforded employment to about 4000 married and unmarried females and children, chiefly the wives and daughters of fishermen; and its annual produce was about 18,000*l*. The merchants sold the thread to the women, and paid them for the lace according to its value, which differed from sevenpence-halfpenny to fifteen or sixteen shillings a yard. Common lace consumed, of course, more thread than the fine bone-lace. Thus a yard of fifteen-penny lace would contain ninepennyworth of thread, while a yard of eight or nine shilling lace contained no more than threepennyworth of thread. The inferior work-people could earn about threepence or fourpence a day at this employment, while the more skilful might get from sixpence to a shilling a day. Small sums these seem; but this was fifty years ago, and in France, where the people can live on less money than here.

It is its fisheries, however, which afford to Dieppe the most important branch of its trade. As it is the nearest sea-port to Paris, and is most advantageously situated for fishing on the coast, the metropolis naturally looks to Dieppe for the principal part of its supply of fish. This circumstance gives great activity to this branch of employment, which occupies a large number of men and vessels. The principal fisheries of Dieppe are those of the herring, whiting, and mackerel. The fish intended for the Paris market are sent off, as soon as landed, in light carts, which travel night and day. In time of peace, there are regular packets between Dieppe and Brighton—a distance of sixty-six miles. This furnishes the most direct of all the routes between London and Paris, and is eighty-seven miles shorter than that by Dover and Calais. In summer, the packets pass almost daily; but, in winter, the inferiority of the harbours on both sides of the channel renders them less frequent than from Southampton to Havre.

The population of Dieppe is commonly estimated at 20,000; but the most recent authority, the 'France Pittoresque,' gives it only 17,079. The town has been the birth-place of several distinguished men, among whom the 'Dictionnaire Geographique Universel' mentions the physician Jean Pecquet, who discovered the *thoracic duct*, to which his name has been given; and Bruzen de la Martinière, the author of 'Le Grand Dictionnaire Geographique.'

MINERAL KINGDOM.—Section XXXIX.

Silver (*continued*).

The richest silver mine at present worked in Mexico is that of Veta Grande, four miles north of Zacatecas, on the table land, at an elevation of 6000 feet above the level of the sea. There is one great vein from eight to thirty feet thick, in different places, but which separates in others into three and four branches. It traverses transition strata, consisting of clay-slate, grauwacke, and limestone, resting on the variety of granite called syenite, and covered occasionally by porphyry. The ores are chiefly native silver and antimonial silver, and yield on an average 3½ ounces of pure metal in the quintal. It produced in 1832 160,000 troy lbs. of silver. Humboldt gives a statement founded on official documents of the produce of the mines of Mexico from 1690 to 1803, which shows that they had been continually on the increase during that period; in the first ten years of it the average annual value of the gold and silver obtained was only 92,000*l*., but in the last ten years it was 4,800,000*l*., of which nineteen-twentieths were silver. This increase was owing to a combination of many favourable circumstances; the discovery of new mines, the increased numbers and intelligence of the population, the extension of commercial intercourse with other nations, and the reduction in the price of quicksilver,—an article of indispensable necessity in order to separate the precious metals entirely from the other mineral substances with which they are combined. He reckons that the average annual amount during the first ten years of the present century was little short of 5,000,000*l*. sterling; the quantity of pure silver annually produced in that time being 1,440,650 troy lbs. In treating of the agriculture of Mexico, Humboldt estimates the total annual value of the produce of the land at 29,000,000 of piastres, equivalent to about 6,344,000*l*. sterling; so that the whole produce of the mines, considerable as it is, and upon which, according to a vulgar prejudice, the prosperity of the country is supposed to depend, is a fourth less than the culture of the surface produces.

But it must not be supposed, from this statement of the abundance of the precious metals, that mining adventures in Mexico are universally lucrative or even profitable; on the contrary, nineteen-twentieths of the mines afford together only about one-twelfth part of the gross produce. The three districts of Guanaxuato, Catorce, and Zacatecas alone furnished more than the half, and the vein of Guanaxuato more than a fourth of all the silver. The sums lost by individuals in unfortunate speculations have been immense; on the other hand, there are instances of individuals who got the great prizes in the mining lottery, suddenly acquiring enormous wealth. The proprietors of the mines of Valenciana in the district of Guanaxuato, became in a few years the richest people in Mexico, for the produce was, for a long time, from 80,000*l*. to 120,000*l*. per annum. The Count de Regla drew in twelve years from the mine of Biscaina, in the Real del Monte, above 1,000,000*l*. sterling; the mine of Padreflores in the Real Catorce yielded 320,000*l*. clear profit the first year it was worked. The mine of Veta Grande, above-mentioned, yielded on an average of

the three years ending December, 1831, 150,000 troy lbs. of silver, and netted to the proprietors 176,000*l.*, or a profit of 185 per cent. on the capital invested. In the year 1832 the silver produced was 180,000 lbs. troy, and the profits were 196,000*l.*; in 1833 it was considerably less, but in 1834 it had again augmented, so that there was every appearance that it would turn out nearly as great as that of 1832*.

South America.—When Pizarro landed in Peru in 1527, he found silver mines worked in several of the provinces, and the metal in very general use. "There are now mines in Peru along the whole range of the Andes, from Caxamarca to the confines of the desert of Atacama; but the richest are those of Pasco, in the eleventh degree of latitude, which have been worked since the year 1630. Here, as well as in other situations in Peru, the greatest part of the silver is obtained from the ore called *pacos*. To form a just idea of the enormous quantity of silver in some of these mountains, it is only necessary to state, that in the mines of Pasco the ore has been worked without intermission since the beginning of the seventeenth century; and that in twenty years preceding 1803, no less than 3,086,420 troy lbs. of silver had been obtained from them, and that too without in any case sinking deeper than about seventy fathoms, while most of the mines do not exceed fifteen fathoms in depth. The stratum of limestone in which the ore is contained lies exposed at the surface over an area of three miles by a mile and a half. The mines of Chota are also very productive. They are situated in the mountain of Gualgayoc, at an elevation of 13,300 feet, where the thermometer in summer descends every night to the freezing point. The ore lies quite at the surface, so that in removing the turf almost in any place, over an extent of half a square league, portions of sulphuret of silver and filaments of native silver may be met with adhering to the roots of the grass. The ore is richer than that of Pasco, and yielded on an average of twenty-eight years prior to 1803, 41,477 troy lbs. of silver annually. In the district of Arica, on the very borders of the Pacific, at Huantajaya, there are mines of silver which are celebrated on account of the very large masses of pure solid silver sometimes found there, one of which weighed 800 lbs. The most renowned of all the silver mines of South America are those of Potosi in Upper Peru. They are situated in a lofty mountain called the Cerro del Potosi, composed of clay-slate covered by porphyry, and rising to the height of 16,000 feet above the sea, the town of Potosi itself being 2700 feet below the summit."—('*Penny Cyclopædia*,' Art. Andes.) According to Herrera the silver was discovered in 1545 by an Indian hunter, who in pulling up a shrub, observed filaments of pure silver about the roots. On examination the mass was found to be enormous, and a very great part of the population was thereby drawn to the spot and employed in extracting the metal. A city soon sprung up, though in a district of unusual sterility. The produce at first was comparatively small, from the ignorance of the miners: but after they found out the method of extracting the silver from the ore by the process of amalgamation, which was brought to Peru from Mexico in 1557, it rapidly increased. It is estimated that the average annual produce from 1556 to 1578 was not less than a sum equal to 440,000*l.* In the next twenty-one years it fell off, the annual amount being only 280,000*l.* It continued to yield a comparatively small produce from its former state, for in the last fifteen years of the eighteenth century its average annual produce was only 116,660*l.* The political disturbances in the last twenty-five years have seriously injured this once opulent district. Captain Andrews, who visited it in 1826, says that, from a population of 180,000 at the commencement of the revolution, it had dwindled down to 11,000; that at one period there were 132 stamping mills for breaking the ore, but that when he was there only twelve were employed; and Sir Edward Temple, who visited Potosi about the same time, says that all the mines put together do not produce 123,400 troy lbs. of silver annually, or about 30,800*l.* in value. There are silver mines in the province of La Paz, in the ancient viceroyalty of Buenos Ayres, which yielded at the time Humboldt wrote, nearly 800,000*l.* annually. Silver is found in Chili, but the mines are in general not very productive. There are veins of silver in several parts of Columbia, but no mines have yet been found sufficiently productive to pay the expense of working them.

With regard to the future prospects of the mines of South America and Mexico, Humboldt, at the time he published his valuable works on that country, was of opinion that they had by no means attained their maximum produce, but would probably become more productive. That as the chain of the Andes, including their continuation into Mexico, is so extensive, and the ores of the precious metals are so generally diffused in them, there must be many places which have escaped the searches of the miners; and there are, besides, several mining grounds that are as yet worked but a little way below the surface. The most productive mines were discovered two centuries and a half after the Spaniards got possession of the country. The system of mining operations is, besides, radically defective in every branch; and if the same skill and economy were introduced, as are practised in the best mining districts of Europe, the increase of produce from that cause alone would be immense.

* For the particulars respecting the Veta Grande, we are indebted to Mr. Frederick Burr, to whom we acknowledged our obligations for similar information respecting the united copper mines in Cornwall.

MACHINE DE MARLY.

"The heroes of poetry are represented as obtaining the assistance of the gods in the performance of their great achievements, but Louis the Great, alone, and without the aid of fiction, was able to force a great river like the Seine to quit its natural boundaries, and to rise over the summit of a mountain, for the supply of one of his palaces." Such is the flourish with which Belidor, one of the most eminent mechanicians of the early part of the last century, introduces a description of the Machine de Marly, an hydraulic engine of enormous size and great complication, which carried to Versailles a quantity of water, equal to about the twentieth part of that supplied to London by the New River Company. Much of the praise bestowed by Belidor may be, without doubt, attributed to the excessive adulation which it was then the fashion to pour out upon Louis XIV., to whose patronage the Machine de Marly owed its existence, but much also was given to the machine itself, which although it is now called "a monument of magnificence and ignorance," and would be surpassed in efficiency by one of our large steam-engines, was probably in its day a first-rate effort of power, and might have been, as Belidor says it was, "the admiration of all Europe."

This machine is, or rather was, situated upon the Seine, about twelve miles from Paris, close by a little village called La Chaussée, within a pleasant walk of the town of St. Germain. It was erected, in the year 1682, by a mechanic named Rannequin, a native of Liége. It took up the whole width of the river, completely stopping all navigation in that part of its course, and compelling the adoption of a canal, which was subsequently cut for the passage of barges.

A very elaborate and accurate account of this machine is given by Belidor, which would be quite unintelligible without the aid of the plates which accompany

his work. A general idea may be gained from the following description:—The whole breadth of the river is divided by piles into fourteen distinct water-courses. In each of these divisions there was a large water-wheel, much like those of the old London Bridge water-works, which may be remembered by many of our readers. Cranks attached to each of these wheels gave motion either to a set of chains, or to forcing pumps. By six cranks out of the fourteen sixty-four such pumps were driven, and their action forced a part of the water of the river through several large iron-pipes up the side of a hill which comes down nearly close upon the bank of the river, and rises to a perpendicular height of about 500 feet, at a distance of three-quarters of a mile. But these sixty-four pumps did not send the water to the top of the hill at once, as might be imagined: the engineer, either distrusting the strength of his pipes, or ignorant of the theory of mechanics, was satisfied with propelling the water at first to a height of only 160 feet, and to a distance of 200 yards from the river, where it flowed into a reservoir dug in the side of the hill, sufficiently large to contain it until sent forwards still further. Here eighty forcing pumps performed the same operation on the water in the reservoir, sending it 500 yards further to a perpendicular height of 350 feet, to be again driven by eighty other pumps as much higher, and to a still greater distance, to the top of a tower built upon the summit of the hill, whence it begins its descent to the place of its destination. The working of these pumps on the side of the hill constitutes the most unscientific portion of the machine. Instead of being placed below, near the power which sets them in motion, they are moved by a long succession of iron rods and chains, which are conveyed up the ascent of the hill at a distance of almost 1000 yards. The manner in which all this is done may be understood by conceiving a man working a pump at 1000 yards distance from the place where he stands: in order to be able to push and pull the pump-handle, he has some hundreds of iron-rods jointed together, and connected at the further end with the handle. When he pulls the end of the rod next him he of course pulls the whole line of rods, and works the pump; when he pushes back again, the line of bars may be retained in a strait position, by rods connected at one end with the joints of the bars, and fastened at the other to a rail fixed to the ground. He thus succeeds in working the pump, but he has also some hundredweight of iron to move at each motion of the pump; and when, as in the case of the Machine de Marly, the shafts are conveyed up the side of a hill, he has all that weight of iron to push up at every rise of the pump-handle. When the writer witnessed the action of the machine about twenty years ago, the sound was like that of a number of waggons loaded with bars of iron, running down a hill with axles never greased. The creaking and clanking must have convinced the most ignorant person that the expenditure of power was enormously beyond what was required for the purpose effected. It has been estimated that 95 per cent. of the power used is employed in moving those unwieldy shafts.

Such is the manner in which the water is raised to the brow of the hill, and to the summit of the tower which is erected upon it, at the commencement of a row of thirty-six large arches, upon the top of which it begins to descend. This is by far the most beautiful feature of the whole work: from its conspicuous situation and fine effect it forms a prominent part of the landscape as seen from St. Germains, and the pleasant villages in its neighbourhood. The beauty of this aqueduct is more to be admired than its utility; for a continuation of the water-pipes to the actual summit, which lies back at a short distance from the brow of the hill, as seen from the river, would have carried the water to the required height without any additional expenditure of power: whereas, by the present costly aqueduct, the water rises to the top of the towers only to flow to the summit of the hill.

The first cost of the Machine de Marly was about 8,000,000 livres, or more than 300,000*l.* sterling; and its annual expense, including working, superintendence, and repairs, about 80,000 livres. Taking the mean produce of the machine to be 36,000 gallons per hour, the water is delivered at a cost of about one farthing per 100 gallons, without taking into the account the cost of its erection; but if we include the interest of that sum at five per cent., the cost of the water will be three-halfpence for that quantity.

The evil of working the pumps with shafts and chains at such great distances from the power acting upon them, was seen within a few years after the machine was completed; and in 1738 an attempt was made by Mr. Camus to raise the water to the top of the tower by a single lift. The attempt succeeded but partially, and the machine was much strained by the extraordinary effort, chiefly because only a small portion of its powers were used, namely, only that part of it intended to throw the water into the first reservoir; the other parts of the machine, which moved the shafts and chain abovementioned, not being applicable for the purpose. But even this comparatively small force raised the water to the foot of the tower, and thus demonstrated the practicability of completing the work at one throw, if the other parts of the machine should be adapted accordingly. Nothing more, however, was done for nearly forty years, and the machine proceeded as before. In 1775, another trial of the power of the machine was made, but this time it was only to raise the water to the second reservoir; this succeeded, and a plentiful supply of water reached the reservoir. It was now hoped that the first reservoir at least would be dispensed with; but many of the old pipes burst from the undue strain upon them, financial difficulties impeded their renewal, and the old plan was once more resorted to. The machine at last fell into decay, and was replaced by a steam-engine of sixty-four horse-power, the finest work in existence, according to Soy, who relates the following anecdote on the subject:—

"Versailles being on the point of wanting water, Napoleon sent for the chief engineer and some learned members of the Institute, and inquired of them what was the best hydraulic machine?

"'Sire, that depends on circumstances.'

"'That is not the question:—what is the best hydraulic machine?'

"'But, Sire, if Nature supplies the moving power—'

"'That is not my question:—what is the best hydraulic machine?'

"'Sire, taking the question abstractedly, the steam-engine.'

"'Make me a steam-engine, and let us hear no more about it.'"

The machine was made at an expense of 2,500,000 francs (about 100,000*l.*), and it consumes 640 lbs. of coal per hour. We must add to this anecdote of Soy that, although the power was changed, the old pipes, reservoirs, shafts, and chains, remain in all their imperfections. The only improvement that we are aware of is, that the pipes, which, some years ago, formed an unsightly object above the ground, are now concealed by being sunk some inches beneath the surface, and such parts as have decayed are renewed or repaired.

⁎ The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

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THE LYNX.



[Lynxes.]

The Lynxes form a small section in the very extensive genus *felis*, or cat tribe of animals, in which they are principally distinguished by the length of the fur, the shortness of the tail, and by the brushes of hair with which their ears are furnished. There are several varieties in this species, distinguished from one another by differences in the size of the animal, in the length and colour of the fur, and in the length of the tail and of the brushes of hair which decorate the ears. Some of the circumstances of difference appear to be merely the result of climate. Thus, as it regards the fur, which is in general much esteemed, as an article of commerce, for its warmth and softness, it is observed to be lighter in colour, and more distinctly spotted, the nearer the *habitat* of the animal is to the north. Others, again, are smaller, have less fur, and show the dark colour more distinctly. It also appears that the fur of the same animal differs very much in different seasons of the year. In this, as in other species of animals, varieties seem to have been unnecessarily multiplied by a reference to mere accidental or unessential circumstances; and one of the first effects which may be anticipated from a more diffused knowledge of the principles by which observations in natural history should be regulated, will be to diminish rather than to enlarge the number of the varieties which many species of animals have been supposed to contain.

The lynx is about the size of a moderately large dog, measuring about two feet and a half from the head to the commencement of the tail, which is about six inches long, being shorter than the thighs. The height to the withers is from sixteen to eighteen inches. The legs and feet are very thick and strong; and the eyes, which are proverbially piercing, are of a pale yellow colour. The long and soft fur is generally of a bright red colour, marked on the back and limbs with blackish-brown spots; three lines of black spots on the cheeks join a large black oblique band on each side of the neck under the ear: the fur of these parts is longer than elsewhere, and forms a kind of lateral beard. The forehead and top of the head are dotted with black; and on the top of the neck there are four lines of the same colour, the middlemost of which is broken and interrupted. The dark spots form two oblique bands on the shoulders, and transverse bands on the fore-legs. The feet are yellow and without spots, but the tarsus of the hind-feet has a brown band. The outsides of the ears are black at the base and tip, and ashy in the middle. The tail, which is yellowish-white underneath, is tipped and ringed with black. The fur inclines to white on the throat, breast, and belly, and the eyes are surrounded with white. This description must be understood to apply generally to the common lynx, and even in this there are considerable departures from this general standard. Some have the spots only of a little deeper red than the ground colour, and in

others the marks differ much in form and depth of colour.

The lynx was formerly spread over the Old World. It was common in France, and has only disappeared from Germany at a comparatively recent period. It is still found in the north of Europe, and even in Portugal and Spain. Cuvier describes one that was killed within a few leagues of Lisbon, and M. Bory de St. Vincent mentions that he frequently met with them in the central and southern mountains of Spain. They there attain to a larger size than usual, and their colours are remarkably vivid. It is very common in the forests of northern Asia, and in the Caucasus. That which inhabits the more southern parts of Asia, and is found in Africa, is a rather distinct variety called *caracal*, a contraction of the Turkish name *kara*, black, and *kulack*, ear. It is chiefly distinguished by its uniform vinous red colour, by its ears, which are black both without and within, and by a longer tail than any other lynx possesses. America is known to have two, or perhaps three, varieties of the lynx. The first is that which, after Buffon, is called the Canada lynx. Its colour is grey, its tail is longer than that of the common lynx, and the hairs on the ears are shorter. Some individuals have the fur so thick and long, especially on the paws, that they have a very different appearance from the European lynx; the identity of which with this species is asserted by some naturalists and disputed by others. It is found in great abundance in the districts about Hudson's Bay, from whence from 7000 to 9000 skins are yearly exported. It is a timid creature, and makes but slight resistance when brought to bay by the hunter; for though, like the cat, it spits and erects the hair on its back, it is easily destroyed with a slender stick. The other variety (*felis rufa*) which is found in the United States, is smaller than the one just mentioned. It has the form and distribution of spots of our European variety; but the ground colour is gray; its spots are more numerous, deeper on the back, and paler on the sides and limbs.

In their manners and habits of life the varieties differ little from one another; but the following statement will be understood as more especially applying to the common lynx.

The physiognomy of the lynx is rather gentle than savage. Alluding to ancient fables, Buffon remarks, " Our lynx is not able to see through walls, but it is quite true that he has very brilliant eyes, with a mild look and an agreeable and cheerful air." The animal may indeed be considered much less ferocious than most others of the genus to which it belongs. It has the soft stealthy walk of the cat, and leaps or bounds in the same manner. It lives by hunting, and often follows to the tops of the highest trees the wild cats, martins, ermines, squirrels, &c., which form its customary prey. It also watches the approach of deer, goats, hares, and other animals, and as they pass, drops down upon them from the branches of trees, where it conceals itself. Among its contrivances to obtain food, it is mentioned that it frequently digs under the doors to gain admission to the sheep-folds. When urged by hunger, it has been known to prey even on its own species. It is passionately fond of blood, and when it has secured its prey is said frequently to suck the blood from the throat, and then leave the carcase otherwise untouched, to go in search of another victim. It perhaps arose from this, that the lynx has been said, in old fables, to have the least memory of any animal—a statement quite on a par with the other very extraordinary particulars concerning it which for a long period formed a part of the popular belief, and are still prevalent amongst ill-informed people. It is said that when the lynx does devour any part of a goat or sheep after having sucked the blood, the brain, the liver and the intestines are the portions which it prefers. The caracal, which is a native of warmer climates than those in which the common lynx is found, presents some peculiarities in its mode of obtaining food, which it may be here desirable to state. It appears that although its disposition is considerably more ferocious than that of the common lynx, it does not like the trouble of taking its own prey, but, when opportunities offer, follows the lion, and feasts on the remains of his meal. Like the jackal, the caracal has been supposed to conduct the lion to the prey of which it afterwards partakes, and it has hence been called the " lion's guide or purveyor." It is said to approach very near to the lion with considerable boldness, which is accounted for by the consciousness of security from the anger of the lordly beast which it derives from the facility with which it can escape up the trees where the lion cannot follow. It is observed, however, that the caracal studiously shuns the panther, as that animal is equally well adapted for climbing with itself. These circumstances do not perhaps denote any inherent difference of habits between the caracal and the common lynx, but may have resulted from the accident of the existence of the former in the same countries with the lion. The absence of the lion from the countries inhabited by the lynx necessarily precludes the latter from the advantage enjoyed by the caracal. We mention this because it is useful to remember that when similar animals have, in different climates, different modes of life, it is not necessary to infer a corresponding difference of propensities or dispositions, unless we find that there are no external circumstances which adequately account for such differences as actually appear.

The sight of the lynx is certainly very quick, and it sees its prey at a great distance. Among the thousand marvellous stories which the old naturalists relate, and which the ignorant and credulous have been willing to believe, one was, that the lynx could see through opake bodies; and another, that its urine was converted into precious stones. There was a time, not very remote, when, in mentioning such old fables, it would have been necessary to have said something to disprove them; but we are thankful and happy that at the present time this is perfectly unnecessary.

The howl of the common lynx has a considerable resemblance to that of the wolf. When assailed, it is by no means so passive as the lynx of Canada. When attacked by a dog, it lies down on its back, and strikes so desperately with its claws, that it frequently compels the assailant to withdraw. This is true also of the caracal; and, Dr. Charleton mentions one that killed a hound, and tore it instantly in pieces, notwithstanding that it made a most vigorous defence. The lynx is, in general, exceedingly ferocious in a state of captivity; it frequently expresses its malignity by a kind of snarling scream, and is seldom or perhaps never tamed. In the East the caracal is sometimes partially tamed, when taken young and reared with extreme caution, and is then trained to assist in the chace. It is capable of rendering very effectual service in hunting the smaller quadrupeds; but when it encounters one which it judges to be superior to itself in strength, it loses its courage and gives over the chace.

Some naturalists have taken the trouble to inquire which variety of the lynx the ancient writers had in view in their various descriptions, and in the fables to which we have alluded. We quite concur in the view which Buffon * has taken of this matter. After mentioning the fables in question, he says:—" This lynx is a fabulous animal, as well as all the properties attributed to it. This imaginary lynx has no resemblance to the true lynx except in the name. It does not there-

* Œuvres, tome xvi., p. 82. Edit. 1828.

fore appear necessary to follow the majority of naturalists in attributing to a real animal the properties of one entirely imaginary. It should not be forgotten that Pliny himself scarcely speaks like one who believed in its existence, and classes it with the sphinxes, the pegasuses, the unicorns, and other prodigies and monsters to which Ethiopia gave birth."

BURIALS IN RUSSIA.

This belongs to a class of subjects which the writer of this article can never approach without becoming conscious of the extent to which travelling among various and dissimilar nations has enlarged his sympathies for all mankind. He was not long in learning that the best and most beautiful feelings of our nature are not limited to place. So far as he has had opportunities of observing, they are nearly equally strong in all places; and, to his mind, those persons are greatly mistaken who imagine that in the differences of external observance they are able to trace analogous differences in the feelings which such observances are intended to indicate,—not considering that the observance is, no part of the feeling itself, but is a variously ornamented trapping or covering to a feeling which is the same in the heart's core of all people. This view does not allow us to consider funeral ceremonies and customs as other than external indications of habits or modes of thinking. They teach us in what point of view a people regard death; but they do not teach us in what point of view they regard the dead. When we think on the matter, this distinction seems clear enough; but, unhappily, we do not think—we act and judge too much on mere impressions; and our impressions are often wrong. If it were not so, we should be no more surprised to discover that all the generations of man are similar in the better feelings of their nature, than we should be to find that their physical organs are in all places the same. As it was in Russian churchyards that the writer was first led to view this matter aright, these observations do not seem to him unfitly introduced in this place.

On reviewing the funeral observances of the Russians, it does not appear to us that they are exposed to the charge of treating their dead with any disrespect. Should any of the details we have to furnish, however, appear to warrant this imputation, we would recommend to consideration a sentence on this subject in Tooke's excellent book on Russia:—"The dead are sincerely and long lamented by their relations and friends; but, from a natural repugnance to the idea of death, they use but little ceremony with the corpse."

As soon as a person has expired, the eyes and mouth are closed by the nearest relation, after which, according to a usage also prevalent among the lower classes in England and Ireland, copper coins are sometimes placed over the eyes. After an interval the body is washed and dressed. The funeral attire differs according to rank, sex, and age. Jenkinson said, "When a man or woman dieth, they stretch him out and put a new pair of shoes on his feet, because he hath a great journey to go: then do they wind him up in a sheet as we do." If this were to be understood generally, it is not now correct. The lowest class bury the dead in their ordinary clothes: those somewhat superior employ a shroud; but the higher classes send for a tailor, who equips the corpse in a good suit of black clothes: the only peculiar circumstance of the dress in the last instance is, that the deceased has around the head a riband on which are representations of certain angelic figures. If the corpse be that of a girl, a garland of flowers is placed upon the head, but a matron is furnished with a rich hood. Children are habited in pink-coloured robes, and a bouquet of flowers is placed in one of their hands, and the coffin is at first strewed and afterwards filled with flowers. In all cases the hands are crossed on the breast.

The dead of all ranks in Russia are interred in coffins; these coffins are made of different sorts of wood; and, in large towns, coffins of all sizes are to be found ready for sale and piled up in the shops of grocers. When at all covered with cloth, the colour of the covering is in some sort distinctive. Pink is used when the deceased is a child or young person; crimson for women; and brown for widows; but black is never in any case employed.

When the body has been laid in the coffin, and all things are properly arranged, a sort of lying-in-state ensues, which is always managed with as much display as the circumstances of the family of the deceased will allow. Our purpose will be best answered by describing this part of the ceremony as observed when the deceased was a person of some rank: the circumstances of splendour are increased when the party is of very high rank, and the inferior classes find substitutes for them. The account of this is taken, with some abridgment, from Rae Wilson.

The coffin, which was exceedingly splendid and very broad at top after the fashion of a sarcophagus, rested upon claw feet. It was covered with crimson cloth ornamented with silver, and a large ornamented cross was fixed at the head. Underneath the coffin there was a quantity of ice in a vessel: as it was summer, this was apparently with the view of lowering the temperature around the corpse. The corpse was well dressed in black, with a riband around the head, in the manner already noticed. A small picture of Christ was placed on the breast. Three very long and thick tapers, entwined with black crape, and fixed in silver or plated candlesticks, were placed at the end and on each side of the head, while a fourth stood at the foot of the coffin. Pedestals were also placed around the coffin, with red velvet cushions fringed with gold, on which were deposited the several orders with which the deceased had been honoured*. A priest who stood at the right side of the coffin was reading from a book; and a small picture in a frame was placed on a temporary altar. The attendant priest is relieved at regular intervals, so that, throughout the three nights and days previous to interment, the attendance is unintermitted. On a table near the coffin was laid a plate of rice, with raisins in the centre arranged in the form of a cross, encircled with large pieces of white sugar. This is the dish of which the persons in attendance at the place of interment partake. It seems to us, however, that what both Mr. Wilson and Dr. Clarke call rice was really husked wheat, not differing, except in quantity, from the mess which forms a principal dish in the refreshments offered to the guests on their return to the house of the deceased. This dish is in allusion to a passage of Scripture in which wheat is used as a figure of the Resurrection; and this allusion would not hold if rice were employed.

On the day of interment, the body is attended to the church by priests, who bear crosses and lighted tapers, and chant hymns all the way. Other persons in the procession also carry tapers, which, indeed, make a great display in all the ceremonials of the Russian Church. The details vary with the circumstances of the deceased. Black clothes, for mourning, are only worn among the upper classes, the people generally wearing their ordinary dresses. If the deceased was in good circumstances, the corpse is sometimes attended by a group of singing-boys, one of whom

* To guard against any inference as to the rank of the deceased, it is necessary to mention that stars, crosses, medals, &c. are about as common in Russia as watch chains in England.

bears a gilt case, containing an image of the Virgin Mary. The persons who attend the funeral always walk, whatever be the distance; while the body is either borne on men's shoulders or taken in a sort of car drawn by horses. Sometimes as many as six horses are employed. The horses are covered with black cloth, and the postilions and drivers on the box are bareheaded. The coffin is still without the lid, being only covered with a pall.

At the church, a short service for the dead is read by the principal priest present. Part of the service consists of chanting, which sometimes is very impressive, though it consists only of a constant repetition of the words "*Ghospodi pomilui!*" or, "Lord have mercy upon us!" After this, the priest reads over the corpse a form of absolution, which is so turned as to be in fact a *prayer* that the deceased may be absolved from all his offences, on the assumption that he repented of them before death. A copy of this prayer is then deposited in the coffin with the body. Until of late years, this document has been described as a passport entitling the bearer to be admitted into Paradise; and many are the sneers in our older travellers against this absurdity. The archbishop Platon took an opportunity, at the funeral of Prince Galitzin, of thus explaining the matter to Dr. Clarke:—"This is what all you foreigners call the *passport;* and you relate, in your books of travels, that we believe no soul can go to heaven without it. Now I wish you to understand what it really is, and to explain to your countrymen, upon my authority, that it is nothing more than a declaration or certificate concerning the death of the deceased." Then laughing, he added, "I suppose you commit all this to paper; and some future day perhaps I shall see an engraving of this ceremony, with an old archbishop giving a dead man his passport to St. Peter." Dr. Lyall confirms this statement, and gives a copy of the document employed on such occasions, with an English translation. It must be allowed, however, that thus to place a paper in the coffin after it had been solemnly read over the corpse by a priest, was well calculated to give to strangers, unacquainted with the language, the impression which had so long been entertained. This paper is not given to those who perish by the hands of the executioner.

After this, the priests, the friends of the deceased, and his domestics, if he had any, walk round the coffin and kiss the corpse. The lid of the coffin is then fastened down, and the body taken away to the place of interment. The concluding ceremonies are sometimes reserved until the corpse arrives at the grave.

At the beginning of the year a feast for the dead is annually held. The surviving relatives then visit the graves of their deceased friends, on which they lay some victuals, and then hear mass, in payment for which the priest is entitled to the victuals left on the graves. Sorrow, however, does not limit itself to stated times and formal occasions. The writer had frequent occasion to observe, sometimes solitary mourners, and at other times family groups, including the white-bearded grandsire at one extreme of life, and the infant in arms—kept quiet by the awfulness of sorrow—at the other, gathered around some grave in a village churchyard. The graves in such places are only distinguished by rough unhewn stones set on end, one at the head and another at the foot of the grave, which thus conveys no information to a stranger, unless he conjectures the age or stature of the deceased from the distance between the head and foot-stones. But there are those at hand to whom these stones—on which "the unlettered muse" has not even inscribed a name and age to supply the place of "elegy and fame"—are full of significance, and are not liable to be wrongly read.

The reader may not be displeased to see an extract, on the subject of Russian Funerals, from Giles Fletcher, as given in 'Purchas his Pilgrimes:'—

"In winter time, when all is covered with snow, and the ground so hard frozen as that no spade or pickaxe can enter, their manner is not to bury their dead, but to keep their bodies (so many as die all the winter time) in a house in the suburbs or out-parts of the town, which they call *Bohsedm* [*Bogdoidom*, according to Tooke], that is "God's House," where the dead bodies are piled up together like billets on a woodstack, as hard with the frost as very stone, till the spring time come and resolveth the frost—at what time every man taketh his dead friend, and committeth him to the ground." According to Tooke, only profligates, such as came to a miserable end, and persons who died without the sacrament, were at a subsequent period dealt with in this manner; and when he wrote, at the end of the last century, more consideration was shewn even to such persons.

ACCOUNT OF THE IMPOSTURE OF GARNET'S STRAW.

[Abridged from 'Criminal Trials,' Vol. II., containing an account of Gunpowder Plot and the Trials of the Conspirators.]

AFTER the execution of Oldcorne and Garnet, the most absurd tales of miracles performed in vindication of their innocence and in honour of their martyrdom, were industriously circulated by the Jesuits in England and in foreign countries. But among these absurd illustrations of the superstition and credulity of the times, the miracle which was most insisted upon as a supernatural confirmation of the Jesuit's innocence and martyrdom, was the story of Father Garnet's straw. It is related at great length, and with a full detail of circumstances, by Eudæmon-Joannes, by Father More, and by almost all the earlier historians of the English mission (of the Jesuits). The original fabricator of this miracle was supposed to be one John Wilkinson, a young Catholic, who, at the time of Garnet's trial and execution, was about to pass over into France, to commence his studies at the Jesuits' college at St. Omers. Some time after his arrival there, Wilkinson was attacked by a severe and dangerous disease, from which there was no hope of his recovery; and while in this state gave utterance to the story, which Eudæmon-Joannes relates in his own words. Having described his strong impression that he should "witness some immediate testimony from God in favour of the innocence of his saint,' his attendance at the execution, and its details, he proceeds thus:—"Garnet's limbs having been divided into four parts, and placed together with the head in a basket, in order that they might be exhibited according to law in some conspicuous place, the crowd began to disperse. I then again approached close to the scaffold, and stood between the cart and the place of execution; and as I lingered in that situation, still burning with the desire of bearing away some relique, that miraculous ear of straw, since so highly celebrated, came, I know not how, into my hand. A considerable quantity of dry straw had been thrown with Garnet's head and quarters from the scaffold into the basket; but whether this ear came into my hand from the scaffold or from the basket, I cannot venture to affirm: this only I can truly say, that a straw of this kind was thrown towards me before it had touched the ground. This straw I afterwards delivered to Mrs. N., a matron of singular Catholic piety, who inclosed it in a bottle, which being rather shorter than the straw, it became slightly bent. A few days afterwards, Mrs. N. showed the straw in the bottle to a certain noble person, her intimate acquaintance, who, looking at it attentively, at length said, 'I can see nothing in it but a man's face.' At this, Mrs. N. and I, being astonished at this unexpected

exclamation, again and again examined the ear of straw, and distinctly perceived in it a human countenance, which others, also coming in as casual spectators, or expressly called by us as witnesses, also beheld at that time. This is, as God knoweth, the true history of Father Garnet's straw."

In process of time, the success of the imposture encouraged those who contrived it, or who had an interest in upholding it, to add considerably to the miracle as it was at first promulgated. Wilkinson and the first observers of the prodigy merely represented that the appearance of a face was shown on so diminutive a scale, upon the husk or sheath of a single grain, as scarcely to be visible unless specifically pointed out. The annexed representation accurately describes the miracle as it was at first displayed.



But a much more imposing image was afterwards discovered. Two faces appeared upon the middle part of the straw, both surrounded with rays of glory; the head of the principal figure, which represented Garnet, was encircled with a martyr's crown, and the face of a cherub appeared in the midst of his beard. In this improved state of the miracle, the story was circulated in England, and excited the most profound and universal attention; and thus depicted, the miraculous straw became generally known throughout the Christian world. The following sketch, which exactly describes the prodigy in its improved state, is taken from the frontispiece to the 'Apology of Eudæmon-Joannes:'—



Such, however, was the extent to which this ridiculous fable was believed, and so great was the scandal which it occasioned among the Protestants, that Archbishop Bancroft was commissioned by the Privy Council to call before him such persons as had been most active in propagating it, and, if possible, to detect and punish the impostors.

The Archbishop commenced the inquiry in November, 1606, and a great number of persons were examined; but as Wilkinson, who was supposed to be the chief impostor, was abroad, and as the inquiry completely exposed the fraud, though the hand that effected it remained undiscovered, no proceedings seem to have been taken to punish the parties concerned in it. It appeared upon this inquiry, that "Mrs. N., the matron of singular Catholic piety," mentioned with so much parade in the declaration made by Wilkinson at St. Omers, was the wife of one Hugh Griffiths, a tailor, with whom Wilkinson lodged; and the "noble person, her intimate acquaintance," who was supposed to have first seen the face of Garnet in the straw, turned out to be a footman named Laithwaite, in the service of a lady of quality. Griffiths and Laithwaite were separately examined by the Archbishop, and varied materially in their accounts of the transaction. The tailor, in his first examination on the 27th of November, stated that "Wilkinson had brought home the straw from Garnet's execution, and given it to him, and that he had delivered it to his wife, charging her to take great care of it, and to enclose it in something which might prevent the spots of blood upon it from becoming effaced. He further stated that his wife, with the assistance of Wilkinson, enclosed it in a glass bottle. He at first said that this was done about nine or ten days after Garnet's execution; but in a subsequent examination he corrected himself, saying that, upon consideration, he recollected that it was done on the very day on which the execution took place; but that, as Wilkinson lodged in the house for seven weeks afterwards, he might have subsequently had it in his possession. At the time of the enclosure of the straw in the bottle, and for some time afterwards, he said that nothing was seen of the face. Griffiths then went on to depose, "that about the 18th of September, nearly five months after Garnet's death, he was looking attentively at the ear of straw (which he gives no reason for not having done before, except that he had not leisure), and thought he perceived a face depicted on it, which he immediately pointed out to his wife and one Thomas Laithwaite, then present." Laithwaite was then examined, who contradicted Griffiths materially, inasmuch as he claimed for himself the honour of having made the first discovery, which was indeed originally ascribed to him by Wilkinson. "I was one day sitting," says Laithwaite*, 'by the fire in Griffiths's house, and looking intently at the straw, when I thought I saw a man's head upon it. The day was dark and cloudy, so that, as I sat in the inner part of the room, the appearance was not very distinct; for which reason I took it to the window, where I discerned the face beyond all doubt. Mrs. Griffiths wondered why I examined the bottle so industriously; upon which I pointed out the face to her, and afterwards to her husband and to Wilkinson. It was visible to all three of them, and all of them declared that they had never seen it before." Previously to the institution of this inquiry, the straw had been withdrawn or destroyed; but several persons were examined by the Archbishop of Canterbury who had repeatedly seen it, and were therefore fully capable of describing it. Among these one Robert Barnes, a gentleman of Cambridgeshire, declared†, "that the straw having

* Examination, Dec. 2, 1606.

† Examination, Nov. 27, 1606.

been shewn to him by Griffiths's wife, he had discoursed of it to several persons when walking in St. Paul's, and told them at the time, as his real opinion was, that it seemed to him a thing of no moment; that he saw nothing in the straw but what any painter could readily have drawn there; that he considered it so little like a miracle, that he never asked the woman how it was done. "The face," he said, "seemed to him to be described by a hair or some very slender instrument; and that, upon the whole, he saw nothing whatever wonderful in the thing, except that it was possible to draw a man's face so distinctly upon so very small a space." A painter, named Francis Bowen, who had been shewn the straw by Garnet's devoted friend, Anne Vaux, was also examined by the Archbishop. He made a drawing of the straw from recollection, upon the margin of the paper which contained his examination, a copy of which drawing was published in Dr. Abbott's 'Antilogia,' from which work the above illustration of it is engraved. Bowen said* "he believed that beyond all doubt a skilful artist might depict upon a straw a human countenance quite as artificially as that which he had seen, and more so; and therefore that he believed it quite possible for an impostor to have fabricated this pretended miracle." With respect to the exaggeration of the miracle after this period, the testimony of Griffiths himself, given in his first examination, is sufficiently conclusive. "As far as I could discover," said he, "the face in the straw was no more like Garnet than it was like any other man with a long beard; and truly, I think, that no one can assert that the face was like Garnet, on account of its small size; and if any man saith that the head was surrounded with a light or rays, he saith that which is untrue."

Many other persons were examined, but no distinct evidence could be obtained as to the immediate author of the imposture. It was quite clear, however, that the face might have been described on the straw by Wilkinson, or under his direction, during the interval of many weeks which occurred between the time of Garnet's death and the discovery of the pretended miracle in the tailor's house. At all events, the inquiry had the desired effect of checking the progress of the popular delusion in England; and upon this the Privy Council took no further proceedings against any of the parties, wisely considering that the whole story was far too ridiculous to form the subject of serious prosecution and punishment.

* Examination, Nov. 27, 1606.

FOUNTAINS.

The very small number of fountains in London has been mentioned by many writers as a matter of great regret, as they considered that such erections distributed through a large town not only form great ornaments to it, but constitute important additions to the public convenience. We think there has been a little exaggeration in the statement of the advantages we might expect from the establishment of fountains. No one can dispute that a handsome fountain is a most pleasing ornament wherever it be placed; and on that score we should be glad to see fountains become more common than they are; but when we come to consider it as a question of necessity, we cannot but see that there is no city in the world which has so little occasion for fountains as our great metropolis. It is probably owing to the fact that London has more than any other metropolitan city realized all the results of civilization that fountains have diminished in number. In Asia, in Italy, Spain and France, fountains are in great abundance in every city, and as ornaments they are often of great interest and beauty; but, considered philosophically, and with a view to their public uses, they are but graceful modes of obtaining an end which the united operation of climate and civilization has rendered unnecessary to ourselves. In warm climates fountains are indispensable, on account of the actual coolness they diffuse around, and still more from the refreshing sense of coolness which the sight of running water always communicates. But our climate is not such as to render this necessary; and during our warm months coolness and comfort in this respect are, beyond all comparison, more effectually promoted in London by the regular watering of the streets, than it would be if it contained within itself all the fountains of all other European cities.

But the purposes for which fountains are the most indispensable in the countries mentioned are, that they furnish to the inhabitants the water which they require for domestic uses. They are obliged either to go or send to the nearest fountain, which may be several streets distant, for the water they need; or else must purchase it of the people who make it a trade to carry it from the fountains through the city for sale. But there is not in Europe a city supplied with water in this manner, in which that necessary article is so cheap as in London, even though the average cost of provisions generally may be much lower. However, it would be still worse if there were no fountains, and the people were obliged to fetch water from the streams and rivers. *They* could not dispense with their fountains. But *we* have dispensed with them, because we have managed to obtain our supplies of water more conveniently and cheaply. To our minds, the fountain-system, as most magnificently displayed, cannot for a moment compete for admiration with that stupendous system of metallic pipes by which a stream of water is conveyed through every street and lane, and into every house of this vast city. This is one of the real wonders of the world. It would be interesting to trace the history of this subject, but we can only just touch upon it now. It seems that for a long period water was conveyed in pipes to fountains or conduits in the streets; and was from thence distributed to the private dwellings by water carriers. These public fountains of course declined as the system of conveying water into the houses by pipes became extended. We shall confine ourselves to two illustrations of the mode of supplying London with water in former times.

In the reign of Henry VI. the increased population of London rendered it necessary to open fresh supplies of water, and various bosses and conduits were erected in different parts. But the supply being still inadequate, the citizens obtained from the Abbot of Westminster, in the year 1439, the perpetual grant of a fountain in the manor of Paddington, together with the right to break up the ground for laying their pipes, for an annual rent of two pounds of pepper. When this grant was afterwards confirmed by the king, he likewise gave authority to the city magistrates to break up any public road or ground belonging to himself or any other person—to purchase 200 fodders of lead for their pipes, &c., and to press into their service plumbers, masons, and other workmen. This was the way in which public undertakings were encouraged in those days.

Rolle, in his 'Meditations on the Burning of London,' has a meditation on the 'Spoiling of the City Conduits,' which supplies some curious particulars concerning the supply of water at the period of the Great Fire. We quote the following as we find it given in Brayley's 'Middlesex.'

"As Nature, by veins and arteries, some great and some small, placed up and down all parts of the body, ministereth blood and nourishment to every part thereof, so was that wholesome water, which was as necessary for the good of London as blood is for the life and health of the body, conveyed by pipes, wooden and metalline, as by veins, into all parts of that famous city.

If water were, as we may call it, the blood of London, then were its several conduits as it were the liver and spleen of that city (which are reckoned as the fountains of blood in human bodies); for that the great trunks of veins conveying blood about the body, as great roots fixed in the earth, shooting out their branches divers and sundry wayes: but, alas! how were these livers inflamed, and how unfit have they since been to do their wonted office? They were lovely streams indeed, which did refresh that noble city, one of which was always at work, pouring out itself when the rest lay still. Methinks these little conduits of London stood like so many little but strong forts, to confront and give check to that great enemy fire, if any occasion should be. There methinks the water was, as it were, intrenched and ingarrisoned. The several pipes and vehicles of water that were within these conduits, all of them charged with water, till by the turning of the cocks they were discharged again, were as so many soldiers within the forts, with their musketry charged, ready to keep and defend those places. And look how enemies are wont to deal with those castles, which they take to be impregnable, and despair of ever taking by storm; that is to attempt the starving of them by a close siege—so went the fire to work with those little castles of stone, which were not easy for it to burn down (witness their standing to this day;) spoiled them, or almost spoiled them it hath for the present, by cutting off those supplies of water which had wont to flow to them, melting those leaden channels in which it had been conveyed, and thereby, as it were, starving those garrisons which they could not take by storm. * * As if the fire had been angry with the poor old tankard-bearers, both men and women, for propagating that element which was contrary to it, and carrying it upon their shoulders as it were in state and triumph, it hath even destroyed their trade, and threatened to make them perish by fire who had wont to live by water."

We need not refer farther than to the capital of a neighbouring kingdom for an illustration of the inconveniences attending the use of fountains and public conduits for the purpose of supplying water to the inhabitants.

The total number of fountains in Paris is sixty-five, besides which there are 124 *bornes-fontaines*, or streams issuing from orifices, or lions' heads in walls or posts. The water is supplied to these fountains by three hydraulic machines, three aqueducts, and the canal de l'Ourcq. But notwithstanding this ample display of water, that necessary article is obtained with infinitely more difficulty and expense than is required in London. The reason of this is, that the plan of conveying water by pipes has been only partially adopted; for it is sold from door to door, at the rate of one sous per pail, by water-carriers, who obtain it at the fountains. The number of water-carriers having casks on wheels is 1400; and those who carry it in pails with yokes, like the milkmen in London, are still more numerous. The superiority of our system, and the inconveniences attending their own, appears to be felt by the Parisians; for a company was, a few years since, formed for the purpose of supplying water to public establishments and private houses by pipes; and it is anticipated that the streets of Paris will, in time, be cleared from the water-carts, which are a great nuisance, as they not only cause great obstructions but frequently sprinkle the persons who are passing.

The abundance of the fountains at Rome still more strongly attracts the notice of a stranger. They diffuse a refreshing sense of coolness throughout the city, and impart to it one of the most agreeable forms of life and motion. Yet, as Martyn intimates, it would be a great mistake to conclude, as many have done, that Rome has an ample supply of good water; for the reverse is really the truth. The author of 'Rome in the Nineteenth Century,' has devoted an entire letter to the fountains of that city. Speaking of them generally, he says: "Nothing strikes a stranger with more just admiration on his arrival at the capital of the world, than the immense number of fountains which pour forth their unceasing flow of waters on every side. It is a luxury, the full enjoyment of which cannot be felt but in such a climate as this; and those only who have known that delicious moment, when the blaze of the summer day fades at last in the golden clouds of evening, can understand the voluptuous delight with which, in its hushed hour of stillness and repose, you listen to the music of their dashing murmur, and rest beneath their freshness." We are afterwards informed, however, that the fountains of Rome are generally deficient in that greatest of beauties—the beauty of simplicity; and in conclusion the writer thus sums up his opinions concerning them:—

"On the whole, I admire with fond admiration, the fountains of Rome; not that as fountains I think them beautiful; but that falling water in an ample quantity must be beautiful in a climate like this, where its sound, even in winter, is so sweet to the senses. I love to repose my fancy upon the three noble cascades that are poured forth at the Fontana Paolina; the copious streams which burst from the rocks of the fountain of Trevi, and those silver fountains that throw high in air their glittering showers within the grand colonnade of St. Peter's. These are beautiful; but for all the ugly statues of monsters and men, sea-horses and dragons, prophets and lions, and fishes and gods, I hold them in utter abhorrence, as well as the clumsy and hideous buildings erected above them."

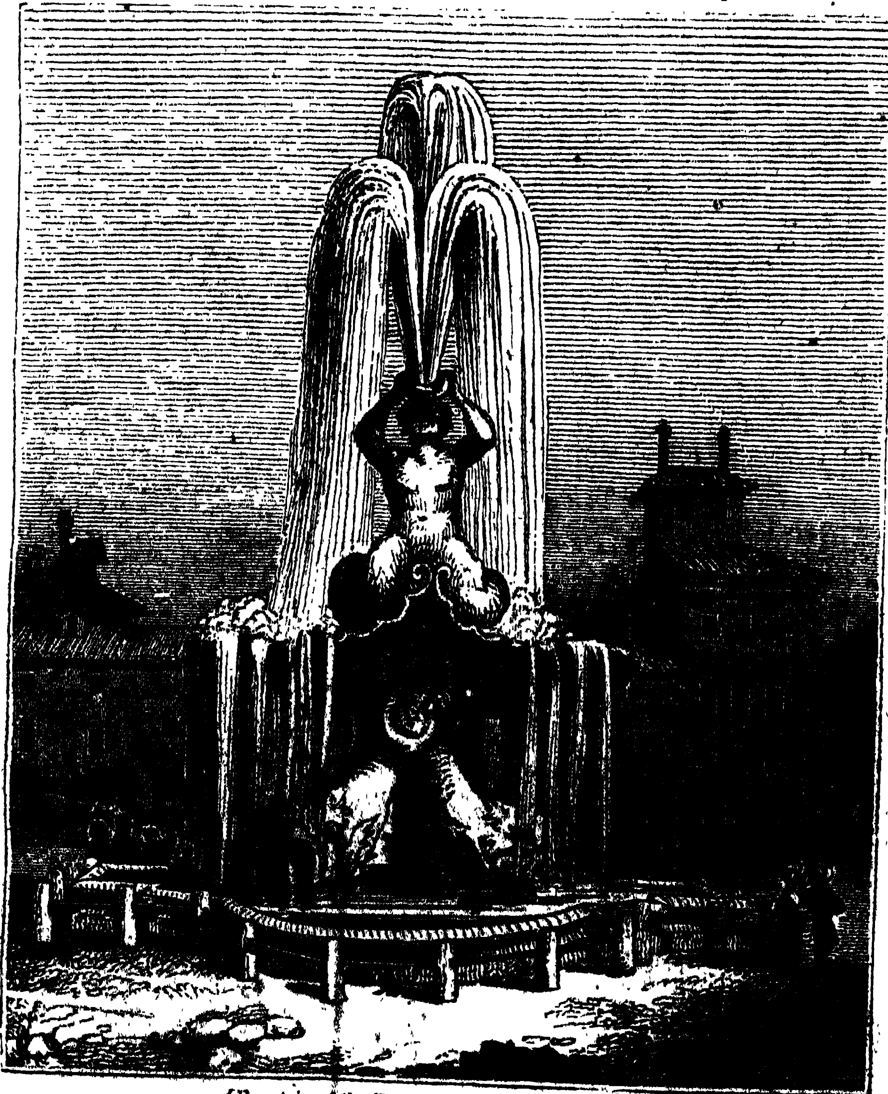
The principal fountains ornament the several piazzas of the city. We shall only here specify those of Bernini. The most admired, although not the most considerable of these, is in the Piazza Barberini, and is that which our wood-cut represents. It exhibits a Triton seated upon four dolphins, and throwing up water from a large shell. Another of his fountains, called the Barcàccia, or boat, is in the Piazza di Spagna. It has been both praised and dispraised more than it deserves; but it is certainly an inferior performance to that already mentioned, which is an interesting work, although it exhibits sufficient exemplification of that corruption which the taste of the artist had already undergone at the time it was executed. But the principal fountain of Bernini is that in the Strada Navona, the model of which won him the favour of Innocent X. Opinions concerning it are quite in the extreme. Martyn roundly declares that it is "the most magnificent fountain in the world." Coxe, who, with many others, seems disposed to consider the fountain of Trevi as the principal of those in Rome, yet explains that although Bernini's fountain has not so copious a supply of water as the other, it is "much more nobly decorated." It consists of a rock, having at each angle a colossal figure, representing a principal river in each quarter of the world, namely, the Danube, the Nile, the Ganges, and the La Plata. From four caverns in the rock issue an equal number of cascades, with a copious flow of water; and the summit is crowned by an Egyptian obelisk about fifty-five feet high, exclusive of the basement.

The piazza in which this fountain is situated was anciently the *Circus Agonalis*, the form of which is still preserved in consequence of the houses being built on the old foundations. It is one of the largest and finest squares in Rome. It was in ancient times used for chariot-racing, boxing, and wrestling; one of the principal markets of the city is now held in it, particularly on Wednesdays. Every Saturday and Sunday in August this square is inundated with water from the foun-

tain, that the people may refresh themselves by riding or walking about in it, which they do in great numbers. Formerly this diversion of paddling in the water used to be protracted throughout the night, accompanied by music and refreshments: but in consequence of the disorders which sometimes arose, the water has now for many years been regularly drawn off at dusk.

Bernini, from whose designs these fountains were executed, has been called by some the modern Michael Angelo, because he united the knowledge and practice of painting, statuary, and architecture. His skill in each of these branches was very considerable; but it was in the last branch that he excelled, and to which he is chiefly indebted for his reputation. He was born at Naples in 1598, and from his earliest years manifested a great capacity for the fine arts, having, at the age of eight years, executed a head in marble, which, under such circumstances, was considered a most extraordinary performance. His Apollo and Daphne, executed at the age of eighteen, raised just expectation that he would rival the best productions of ancient Greece. This expectation was not fulfilled. At this time his style was in its purest state, and had less of the peculiar *manner* which it afterwards acquired. It is said that when the artist surveyed this group in his old age he allowed that he had really made very little progress since the period at which it was executed. Late in life, he confessed that, in endeavouring to remove from his mind the restraint of rules, and all imitation of the antique and of nature, he fell into a faulty *manner*;—that he mistook facility of execution for the inspiration of genius, and that in endeavouring to heighten the expression of grace he became affected, and encumbered beauty with superfluous ornament. Before, however, he arrived at these just conclusions, the influence of his name produced many imitators of his style; and adequate judges consider that his merit, great as it was, operated unfavourably for the advancement of art. Among his works, about this time, it may interest our readers to know that he made a bust of Charles I. When his reputation reached England, that king was anxious to have his bust done by so eminent an artist, and sent him three portraits, by Vandyke, of himself in different positions. By this means Bernini was enabled to make an excellent likeness, with which the king was so delighted that he drew from his finger a diamond-ring, worth 6000 crowns, and sent it to Bernini as a decoration for the hand which could achieve such wonders.

Bernini died in the year 1680, after having, during a long life, acquired an unusual portion of wealth and honour.



[Fountain of the Prince of Palestine, by Bernini.]

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THE INNS OF COURT.



[Middle Temple Hall.]

WE have no direct evidence as to the precise period when the Inns of Court were established. But their origin is doubtless to be referred to the time when the courts were settled at Westminster. Magna Charta provides, that "common pleas are not to follow the king's court, but are to be held in some certain place;" a provision which was carried into effect by Henry III., who confirmed the Great Charter wrung from the hands of his predecessor. The Court of Common Pleas was then stationed at Westminster, and thus, as Dugdale remarks, "those who studied the laws, knowing better where to fix themselves, would associate together." The contentions about the *common law*, and the *civil* and *canon law*, were also instrumental in strengthening the foundations of these establishments.

In the rude and simple state of society which existed during the Saxon heptarchy, the clergy were the only lawyers, as they were the sole depositories of whatever knowledge and learning were then cultivated. The people resorted to them for advice and direction; and such of them as were the most expert in their application of the unwritten rules, decisions, &c., of the law to the cases that came before them, were, of course, esteemed the best lawyers of the time. Edward the Confessor caused a digest to be made of the various laws, customs, and decisions peculiar to the Saxons, Danes, &c.; and this digest he made applicable to all England: from which circumstance arose, it is said, the title of "*common law*." This body of law was revised by William the Conqueror, who added some of his Norman institutions, and made the amended code the law of the land.

On the revival of literature in Europe, the Roman, or civil law, and the Romish, or canon law, were much cultivated. The one was the law of pagan, the other the law of ecclesiastical Rome. Under William the Conqueror and his successors, numbers of foreign ecclesiastics flocked into England. These brought with them their predilection for the civil and canon laws, and associated them with divinity in their schools. The native nobles of England looked on with jealousy and alarm at the innovations which were attempted to be made. Two parties thus arose: the nobility patronised the common law as that which had descended to them from their forefathers, and which had their prejudices enlisted in its favour; the clergy excluded it from the universities, and endeavoured to set themselves above its requisitions. The consequence was the establishing of schools where laymen might study the common law, which were favourably regarded by the nobility and assisted by their benefactions. The clergy, however, for a long period engrossed the honours of the legal profession: up to the reign of Henry III., the judges in the courts were ecclesiastical persons, and for a considerable time afterwards the officers of the Court of Chancery were all in holy orders.

The inns were originally the lodging-houses of the retainers of the court. They were called *Inns*, "because the students studied there not only the laws, but all such other exercises as might make them the more serviceable to the king's court, such as dancing, singing, playing on musical instruments, and learning divinity on festival days." Sir George Buck, who describes himself as "Master of his Majesty's office of the Revels," in a description of the Inns of Court, which is appended to Stowe, says, "Anciently here in England the houses of the greatest lords, both spiritual and temporal, of this kingdom (which they had here in London) were called *Inns*, as Oxford Inn, Warwick Inn, and Ely Inn, &c., which we now call Oxford House, Warwick House, and Ely House; and yet until this daye, the houses of the French noblemen in Paris are called Hostels [Hotels], which cometh from the Latin word *Hospitium*, and is the same which *Inn* is in English." Malcolm does not understand how the term inn came to be given to the houses of noblemen and prelates, unless it was intended to convey an idea of plenty or hospitality. The word, however, was certainly applied to the mansions of noblemen, as well as to the houses appropriated to the reception of travellers, and the lodging-houses of the students of the law.

"Of the inns of court," says Sir John Fortescue, who was chief justice of the King's Bench, and flourished during the reigns of Henry VI. and Edward IV "properly so called, there are four in number. In that which is the least frequented, there are about 200 students. In these greater inns, a student cannot well be maintained under 28*l.* a year. And if he have a servant to wait upon him (as for the most part they have) the expense is proportionably more. For this reason the students are sons to persons of quality; those of an inferior rank not being able to bear the expense of maintaining and educating their children in this way. As to the merchants, they seldom care to lessen their stock in trade by being at such yearly expenses." In Fortescue's time there were about 2000 students in the several inns, all of whom were *filii nobilium*, or gentlemen born. But as society advanced, and merchants grew wealthy, so as to care less about "lessening their stock in trade," the sons of untitled people began to study the law as an honorable profession. Upon this Sir George Buck indignantly remarks:—"Because that by ancient custom, and by old orders of court and chancery, all those which were admitted into these houses were, *and ought to be*, gentlemen, and that of three discents at the least, as Master Gerard Leigh affirmeth, therefore they which are now admitted are registered by the style and name of gentlemen. And yet notwithstanding this, if they be not gentlemen, it is an error to think that the sons of graziers, farmers, merchants, tradesmen, and artificers can be made gentlemen by their admittance or matriculation in the buttrice role, or in the steward's boke of such a house or inn of court; for no man can be made a gentleman but by his father. And be it spoken, with all reverend reservation of duty, the king (who hath power to make esquires, knights, baronets, barons, viscounts, earls, marquises, and dukes,) cannot make a gentleman; for gentility is a matter of race and of blood, and of discent from gentill and noble parents and auncesters, which no kings can give to any but such as they begat."

King Edward I. especially appointed the lord-chief-justice of the common pleas and his fellow justices to provide and ordain certain attorneys and lawyers from every county, who were the most skilful and apt in the laws, to follow his court, and transact such affairs as required their services; and those thus selected were alone to have the privilege of practising. It is stated that Henry III. had previously taken the inns under his protection, and granted them exclusive privileges, by prohibiting any other schools from teaching law within the city of London; and that he also formed the members of each lodging house into a kind of corporation, and established a set of rules for their conduct. There is no sufficient authority for this latter statement; but it is certain, however, that the crown frequently interposed its authority for the regulation of the conduct and even the dress of the students. In the time of Queen Elizabeth, particularly, the judges and the queen, "with the advice of her privy counsell, and the justices of her bench," used to issue orders to the benchers and the members of the inns for their order and reformation. The education, also, of the students, received the queen's attention. Ireland, in his 'Picturesque Views,' states that, "In the 3rd Elizabeth it was ordered that every single reader should be at three mootes in every term, and

in Michaelmas term at four mootes; and every bencher, not reader, at five mootes in every term, and in Michaelmas term at six, upon pain of forfeiting 5s. every moote. And here," he continues, "we shall endeavour to explain what is meant by mooting—a phrase, perhaps, not generally understood. The utter barristers, that is, those who had continued in the house five or six years, and had profited in the study of the law, had this degree of utter barrister conferred on them, and were called by the elders or benchers to plead, argue, and dispute some doubtful matter in the law before certain of the same benchers, in term time, or in the two principal times in the year of their learnings, which they call grand vacations, and the same manner of argument or disputation was called mooting. Mootings were formerly pleaded or declared by the young learners in homely law French (as it is termed) on some doubtful matter or question in the law; they were afterwards rehearsed by two utter barristers in law French, for and against the question; and then three of the benchers were to declare their opinions in English."

These public mootings and duties have, however, been long since abandoned, as inefficacious and useless. The mode of passing through an inn of court, in order to qualify for being called to the bar, is now a mere form, and to those unacquainted with the system, it will appear a very ludicrous form. It consists in being present in the hall of the particular inn to which the individual belongs at dinner during a certain number of days. Self interest and a laudable ambition inspire such students as wish to rise in their profession with the ardour of study; but the societies cannot impose any particular obligation in this respect. Questionless it requires no ordinary application to acquire such a knowledge of the complicated laws of Britain as has been displayed by many illustrious men, who have risen by their talents to the highest honours which the state can bestow upon its subjects. Yet for all that exists to the contrary, an individual may be called to the bar totally ignorant of those laws which he professes to have studied. Of course, the public exercises its discretion, and it does so with effect. An unapt lawyer will generally carry a briefless bag; and if he means to live by his exertions, he had better have tried some other vocation. Even with abilities and industry it frequently tests the patience and spirits of men to obtain notice and employment in the crowded walks of the legal profession.

Each of the inns of court is independent. They agree, however, in the observance of certain common regulations. Though without any control over each other, they have all undertaken voluntarily, by committees of the benchers, the observance of certain general and mutually-advantageous resolutions. No person can keep a term in any of them without being three days in the hall when the grace is said after dinner. None of the societies can call a gentleman to the bar before he has been five years a member of the society, unless he is a master of arts or a bachelor of laws of any of the universities of Oxford, Cambridge, or Dublin, when three years is the period required. No person in trade or in deacon's orders, and no one who has held the situation of a conveyancer's clerk, can be admitted at all; and solicitors and attorneys must have their names struck off the rolls for two years, and the articles of clerks must be expired or cancelled, two years before they can be admitted. If one of the societies reject an applicant for admission, the circumstance is communicated to all the other inns, and, according to the resolutions by which all the societies are voluntarily bound, none of them can admit him. No one can be called to the bar until his name and description have been put up on the screen in the hall of the society to which he belongs, for a fortnight previous to his call, and communicated to all the other societies. Before the call, the oaths of allegiance and supremacy are required. If the applicant gives a wrong description of himself in any one respect, his application will be rejected. Without the approbation of the treasurer or one of the benchers, no gentleman can be admitted.

The mode of admission varies little in the inns. In stating his wishes to the society, the applicant must describe his age and condition in life, and the abode and condition in life of his father,—set forth the object which he has in view in seeking admission,—and bind himself to abstain from practice as a conveyancer unless he obtains the permission of the benchers. Recommended as a gentleman of respectability by two barristers, with the surety of a householder or a barrister for the payment of his dues, the applicant must give in a paper, containing his application, recommendation, and surety, to the steward of the society, for the approval of a bencher or the treasurer. When his application is approved, the admission takes place on the payment of a sum for the stamp, the bond, the admission money, and other items, varying in the different inns from 30*l.* to 40*l.* On his admission, the student enters into a bond of 100*l.* penalty, along with another member of the inn, for the payment of his commons or dinners while a student. Before he can keep terms, that is, eat a certain number of dinners in each term—he must deposit 100*l.*, (which will be returned without interest on his call to the bar, or when he leaves the society,) or produce a certificate of having kept the requisite number of terms at Oxford, Cambridge, or Dublin, or of membership of the Faculty of Advocates in Scotland. In all the inns the student must keep twelve terms before he can be called. Irish students must keep eight in England, and nine in Dublin, and there is a ceremonial of nine exercises which all students must undergo, the object of which is to make the benchers acquainted with the persons of the students. In the Inner Temple this assumes the form of an examination, in order rather to learn how the student has spent his time than to ascertain his abilities and acquirements.

On the expiring of his terms, his age being more than twenty one years, and his certificate on commencing his exercises having been approved, the student informs the steward of his inn of his intention, some days previous to the commencement of the term in which he wishes to be called, in order that the necessary preparations may be made. Having obtained the support of one of the benchers to his petition, which he addresses to the benchers at a special council, if he obtains their approbation he attends the benchers after dinner, the usual oaths are administered, and he is called to the bar. When this has taken place, new bonds are entered into for the payment of his dues under a penalty of 200*l.*; and the expense, made up of various items, differs in the inns from about 66*l.* (the expense of being called in Gray's Inn) to 93*l.* (the expense in Lincoln's Inn).

There are different degrees among the members of the inns. The barristers were anciently called apprentices of the law, from *apprendre*, to learn. Above them formerly were the *ancients*—this was a degree of precedence bestowed as a mark of honour upon barristers, though enjoyed as a right by the sons of judges. The serjeants are the highest degree at common law, as the doctors are in civil law. The Court of Common Pleas was, until lately, set apart to this order of barristers. Serjeants-at-law are made by the king's writ, directed to the barristers upon whom the honour is conferred, commanding them to take upon them that degree by a certain day. Some of the serjeants are appointed

king's counsel, the two principal of whom are called his attorney and solicitor-general. The *reader* of the inn is a barrister appointed to deliver a lecture before the society on some point of law. In some of the inns the preacher is now called the reader of the inn. It is customary now for the crown to grant letters patent of precedence to such barristers as it deems worthy of the honour—a privilege which entitles them to the rank and pre-audience assigned in the patents.

The benchers are elected out of barristers at the bar according to seniority. They govern and direct the society. Their power is discretionary, and cannot be questioned. They may reject an application for admission without even assigning a reason. They possess this power, however, only in common with all voluntary societies. There is no appeal from their decision. The twelve judges are visiters of the inns. It is their province to take cognizance of the conduct of the benchers to the members of the inns; so that, though a person never admitted has no appeal to the judges, the refusal of a call to a member may be subjected to the revision of the visiters. The privilege of conferring upon individuals the right of pleading is enjoyed by the inns only in consequence of the permission of the judges: they want the sanction of parliament.

The authority of the benchers in the rejection of an applicant for admission was tried in Michaelmas term, 1825, before the Court of King's Bench, in the case of Mr. Thomas Jonathan Wooler. Mr. Wooler applied in Michaelmas term, 1824, for admission as a member of Lincoln's Inn, but received, on the 27th of January following, an official communication of his rejection from the steward, without any reason assigned. He then petitioned the benchers for a statement of the reasons of his rejection, and a hearing in his own behalf; and having received no answer from them, he petitioned the twelve judges for redress. He was informed by the Lord Chief Justice of the Court of King's Bench, that the twelve judges had no power to interfere in the case. Mr. Wooler then applied for a *mandamus*—a *prerogative writ* used in all cases where the law has established no other mode of redress—on the ground, that if the judges had no jurisdiction in such cases, the powers of the benchers were both grievous and unconstitutional. The judges delivered their opinions *seriatim*, which coincided with the opinion formerly expressed by Lord Mansfield—that the society was a voluntary body, and therefore beyond the jurisdiction of the court—that no one had an inchoate right to admission, since the inns of court were not incorporations, but voluntary societies, enjoying the privilege of calling persons to the bar by the permission of the judges, and that unless in the case of a member refused a call to the bar, when, as visiters, they might revise the decision of the benchers, or, in case the system of exclusion were carried so far as not to call a sufficient number of persons to the bar to transact the public business conveniently, the twelve judges had no right to interfere with the conduct of the benchers.

The way in which the benchers have exercised their powers may be ascertained, in some degree, from a few facts to be found in the evidence taken before the Common Law Commissioners. It appears from the examination of Mr. Thomas Lane, steward of Lincoln's Inn, that from ninety to upwards of a hundred gentlemen are admitted members of the society every year, while the average number of calls to the bar is forty-two in the course of a year. He has held the office of steward for forty-one years, and remembers only one rejection of an applicant for admission, and two of persons applying to be called to the bar. Both the gentlemen rejected were afterwards called to the bar. One of them was an editor of a newspaper, and was rejected upon the ground of having been convicted of a libel. Neither Mr. Burrell the treasurer, nor Mr. Griffith the steward of Gray's Inn, were aware of any refusals of admission into the society to which they belong. Mr. Griffith stated that one individual had been refused admission to the bar because he was an uncertificated bankrupt. He appealed to the judges, and was heard by his counsel, Mr. Denman, but the judges sanctioned the refusal of the benchers. Mr. James Gardiner stated that four persons had been refused admission to the Inner Temple since he was under-treasurer. One was refused because he had been in trade, was a bankrupt, and did not intend to be called to the bar; another because he did not intend to be called to the bar, and was a barrister's clerk. Mr. Gardiner mentioned two cases which occurred in his predecessor's time. One of them was a person who had stolen papers from an attorney's office, and the other was this person's brother.

There are four Inns of Court:—Lincoln's Inn, the Inner Temple, the Middle Temple, and Gray's Inn. There are eight Inns of Chancery attached to the Inns of Court:—viz., Furnival's and Thavie's to Lincoln's Inn; Clement's, Clifford's, and Lyon's Inns to the Inner Temple; the New Inn to the Middle Temple; and Barnard's and Staple's to Gray's Inn.

The site now occupied by the buildings of the two societies of the Temple was once the property of that powerful and wealthy community of military monks, the Knights Templars—whence the name. The primary occupation of this order was to protect pilgrims in the Holy Land, on their way to visit the sepulchre at Jerusalem, and to conduct them safely back. Stowe states that the original knights, "having no certain habitation, Baldwin, King of Jerusalem, granted unto them a dwelling-place in his palace by the Temple." Many noblemen in all parts of Europe became brethren of this order, and built temples in most of the cities and great towns. The London Temple was their chief house in England, in which they lived in great state, and frequently gave splendid entertainments to the monarch, the foreign ambassadors, and the nobility. So high was their reputation and power, that wealthy individuals who deemed their treasures insecure in other places used to deposit them in the Temple. The wealth and consequent pride of the order led to its downfall. On the motion of Philip King of France, the Knights Templars were condemned by a general council, and all their property confiscated. The Temple in London consequently reverted to the crown. Edward II. gave it to Thomas Earl of Lancaster, who forfeited it by rebellion; it passed into one or two other hands, and ultimately came into the possession of the Knights Hospitallers of St. John of Jerusalem, an order very similar to the suppressed order of the Templars, but who were then highly celebrated for their warlike achievements. It is supposed that they demised these premises, for a rent of 10*l.* per annum, to "a society of students of the common lawe," who emigrated thither from Thavie's Inn. The new institution was exposed to the attacks of the insurgents under Wat Tyler, who destroyed and burnt the books and records of the society. Stowe says, that "they destroyed and plucked down the houses and lodgings of this Temple, took out of the church the books and records that were in hutches of the apprentices of the law, carried them into the streets, and burnt them; the house they spoilt for wrath they bare Sir Robert Hales, Lord Prior of St. John's in Smithfield." This destruction of the records causes a portion of the early history of the Temple to rest on traditionary evidence. It is not known with accuracy when the students divided into the two societies of the Inner and Middle Temple. It is supposed to have been in the reign of Richard II., shortly after the insurrection of Wat Tyler, and to have been caused by the great increase of the

students, which rendered a division necessary and convenient. The two societies held the Temple from the Knights Hospitallers until the dissolution of monastic institutions in the reign of Henry VIII., when they held of the crown; and their title to it was clearly secured by James I, who, by letters patent, dated at Westminster in the sixth year of his reign, granted the whole to Sir Julius Cesar, knight, then chancellor and under-treasurer of the King's Exchequer, and to the treasurers, benchers, and others of the house, and their assigns for ever, " for the reception, lodging, and education of the professors and students of the laws of this realm," at a rent of 10*l*. from each society.

The buildings of the Temple reach from Fleet Street to the river, north and south, and from Lombard Street, Whitefriars, to Essex Street in the Strand, east and west. The access to these inns, with their squares, courts, and gardens, is by means of narrow mean gateways and lanes, branching off from the main streets, which a stranger might pass and repass without remarking that they led to such celebrated establishments. The Middle Temple Gate, the only respectable entrance to the Temple, was constructed by Sir Christopher Wren, at the expense of the society, between the years 1684 and 1688, and is in Fleet Street, near to Temple Bar. On the spot where it stands, it is stated by Ireland that " there was formerly an ancient structure, which was erected by Sir Amias Paulet, in the reign of Henry VIII., on a very singular occasion. Fiddes relates, in his Life of Wolsey, that Sir Amias, about the year 1501, thought fit to put Wolsey, who was then parson of Lymington, in Hampshire, in the stocks. In 1515, Wolsey, bearing his honours thick upon him, and bearing too in mind the indignity offered to him by Sir Amias, sent for him to town, and commanded him not to quit it till he received further orders. In consequence of this injunction, as we are told by Hollingshed, he lodged five or six years over the gateway he had rebuilt, and to pacify the resentment of his eminence, adorned the front with the Cardinal's hat, badges, cognizances, and other devices." The entrance to the Inner Temple from Fleet Street, is by a heavy sculptured archway, erected in 1611. Of the Temple Church, the only remnant of the Temple as possessed by the Knights Templars, a description has been given in the 14th Number of the 'Penny Magazine,' to which the reader is referred. This venerable building has undergone a complete restoration and repair.

The Middle Temple Hall, which stands in Middle Temple Lane, is a fine structure. In it were held many of those revels and feastings which are so conspicuous in the annals of the society. About three years ago it was thoroughly repaired, and the entrance was rebuilt. This consists of a square tower, with smaller octangular towers at the angles; the body of the work is built of red kiln bricks, the mouldings to the doors and windows being of Bath stone, as well as the basement and string courses. The building adjoining the Hall, constructed with yellow stocks and Bath stone, is, as well as the hall, designed in the Elizabethan style of architecture, and has a fine bold characteristic effect. This range of building, including the kitchen for the hall, is about 170 feet in length, and four stories in height. The façade may be said to be divided into four parts by three oriel windows, which occupy the height of the second and third stories, and are supported on corbelling or projecting blocks of stone moulded. The parapet walls of the building are finished with battlements.

The garden of the Inner Temple is of considerable extent, and has a spacious gravelled walk or terrace on the banks of the Thames. It forms a good promenade in summer, being then opened in the evenings to the public. Very extensive improvements have taken place in the Inner Temple within these two or three years. The Hall, originally founded in the reign of Edward III., rebuilt after the Great Fire in 1678, and which received a new entrance in 1816, is too small for its purposes. A library in the Gothic style of architecture has been erected, having one front towards the garden, and the other in the cloister-court, towards the chapel. The chambers, situated in what is called the King's Bench Walk, have been extended towards the river; the façade is in the Grecian style of architecture, and the effect of the building is simple in the extreme. Altogether, the improvements in the Middle and Inner Temples have been very extensive, and have given a modern air to a great portion of these establishments.

The civic boundary, Temple Bar, has given rise to the appellation of *Inner* and *Middle* Temple. The Inner Temple was so termed as being within the city, and Essex House, originally a part of the buildings, was formerly the Outer Temple, as lying outside the city. The Middle Temple of course was between. Shakspeare, in the First Part of Henry VI. (Act ii. scene 4), alludes to the gardens of the Temple, as the place where the badges of the houses of York and Lancaster, in their deadly feud,—the red and white roses,—were first selected by the leaders of each party. It is uncertain whether he had anything more than mere tradition for assigning such a locality.

Lincoln's Inn is situated on the west side of Chancery Lane, nearly in the centre of the metropolis, and, with its squares and garden, occupies a large space of ground. The name is derived from Henry Lacy, Earl of Lincoln, in whose possession the house was, and who, being favourably disposed towards a society of students of the common law, induced them to settle here. This is stated to have occurred in the reign of Edward I. or the beginning of the reign of Edward II. The house had been previously occupied by certain Dominican monks, who had removed to Blackfriars. Various additions were from time to time made to the original grant, but the common name of Lincoln's Inn was extended to all the society's possessions. The Register of the Inn records that " the hall was finished in the twenty-second Henry VII.; and, in the following year, they began to make bricks, and to contract with masons for the stone-work of another fabric, viz., the great gate-house tower, unto which Sir Thomas Lovell, formerly a member of this society, but then treasurer of the household to King Henry VII., was a good bene-



[Lincoln's Inn Gateway in Chancery Lane.]

factor. The timber for this purpose was brought by water from Henley-upon-Thames." The library was finished in the twenty-fourth Henry VII., "as may appear by the charge in sealing of it; but the work of the gate-tower went slowly enough on, for, till the the ninth of Henry VIII., when Sir Thomas Lovell gave more money to forward it, no mention is made of it." Two years afterwards, in 1520, the society made an exertion to finish the gateway: all then in commons were taxed, and further order made for the speedy payment of monies, besides 40*l.*, the sum allowed out of the treasury of the House for the perfecting of this structure, which was completed in the twelfth Henry VIII., the whole charge amounting to 153*l.* 10*s.* 8*d.*

The circular compartments over the gateway, as represented in the wood-cut, contain in the centre the arms of England, encircled with the garter and its motto, "*Honi soit qui mal y pense.*" The arms on the dexter or right side, are those of Lacy, Earl of Lincoln, and on the sinister or left are those of Sir Thomas Lovell. On a label beneath is inscribed "*Anno Dom.* 1518."

The Hall of Lincoln's Inn—the most ancient portion of the establishment—is distinguished as being the place where the Lord Chancellor of England occasionally exercises his high functions. It was finished in the twenty-second year of the reign of Henry VIII. The interior is spacious and well-proportioned; it is sixty-two feet in length and thirty-two feet in breadth. Amongst its ornaments is the much-criticised historical painting of Hogarth, of 'Paul before Felix.' The windows are in the pointed style, and contain numerous coats-of-arms.

The old chapel having become ruinous it was pulled down, and a new one erected, from a design by Inigo Jones, during the reign of James I. The expense of the erection was estimated by the architect at 2000*l.*, which was defrayed by a tax on the members of the Inn, assisted by voluntary contributions. It was finished in five years, and was consecrated, in 1623, by George Mountain, then Bishop of London. This chapel was thoroughly repaired in the year 1791, at an expense of 7000*l.* In this chapel there is a statue, by Chantrey, of the celebrated Lord Erskine, who, after leaving Cambridge, entered Lincoln's Inn. A representation of this statue is given at p. 256.

The spacious square termed Lincoln's Inn Fields was originally designed by Inigo Jones, who, it is stated, gave the ground-plot the exact dimensions of the base of the great pyramid of Egypt. In a commission, dated 1618, issued to the Lord Chancellor Bacon, and other noblemen, it is stated that the ground called Lincoln's Inn Fields was much planted round with dwelling-houses and lodgings of noblemen and gentlemen of quality; but at the same time it was deformed by cottages and mean buildings, encroachments on the fields and nuisances to the neighbourhood. The commission orders these grievances to be reformed, and the fields, called *cup-fields*, and *purse-fields*, to be framed and reduced, both for sweetness, conformity, and comeliness, in such sort, manner, and form, both for public health and pleasure, as by the said Inigo Jones is or shall be drawn by way of map. But the design was scarcely begun for many years afterwards, and it is only very recently that the square has received something like completion.

Various benefactions have been made to Lincoln's Inn. Mr. John Nethervele, a fellow of the Inn, by his will, twentieth Henry VII., left forty marks to the society for erecting or founding a library, the chaplain of the society, for the time being, to say masses for his soul every Friday for ever. In 1658, Mr. Henry Colter devised 20*s.* monthly, for ever, for a sermon to be preached in Lincoln's Inn Chapel, "by some suffering yet learned and sound divine," together with the residue of 20*l.* annually for certain charitable purposes. Mr. William Martin, in 1707, bequeathed 2000*l.* to the Society of Lincoln's Inn. In 1754, Mr. Tancred bequeathed a certain sum for the education of twelve young men, of whom four were to study the common law in Lincoln's Inn. And in 1768, a lecture was founded by Bishop Warburton (who had been a preacher of the Society), for proving the truth of the Christian religion, to be delivered annually on the first Sunday after Michaelmas Term, and the first Sunday before and after Hilary Term.

GRAY'S INN stands on the north side of Holborn. It was originally the mansion of the Lords Gray, of Wilton; but it is not distinctly ascertained when it came into the possession of the Society. It is stated that certain students of the common law had a lease of it from the Lords Gray so far back as the reign of Edward II. It came into the possession of the prior and monks of Shene, who devised the house to the students for the rent of 6*l.* 13*s.* 4*d.* per annum, and it was so held until the dissolution of the monasteries, when Henry VIII. granted it in fee-farm for the same sum, which has been paid regularly ever since.

Although the names of many remarkable men who were connected with the inns of court have been necessarily passed over, we cannot omit to mention that the illustrious Bacon was once a student in Gray's Inn, which he entered on leaving Cambridge. "It is likely," says his biographer, in the 'Penny Cyclopædia, "that his admission was in Michaelmas Term, since it appears, from the records of the Inn, that he was made an ancient on the 21st of November, 1576, an honour usually conferred on barristers, but bestowed on the sons of judges in consequence of their birth." In the garden of the Inn Bacon erected a summer-house on a small mount, which then commanded a view of Highgate and Hampstead, and all the adjacent country. But both the view and the prospect-house have vanished in the increase of London. The elm-trees on each side of the walk in the garden were planted by Bacon

Of the eight inns of chancery a bare enumeration will suffice. Clement's Inn derives its name probably from being situated near St. Clement's church or well. It was an inn of chancery, or house where the students of the law had their residence in Edward the IV.'s time. Shakspeare has alluded to this inn in the words which he puts into the mouth of Master Shallow:—"I was once of Clement's Inn, where, I think, they will talk of mad Shallow yet. . . . . There was I and little John Doit of Staffordshire, and black George Bare, and Francis Pickbone, and Will Squele, a Cotswold man. You had not four such swinge-bucklers in all the inns of court." ('Hen. IV.,' Part 2, Act iii., scene 2.)

Clifford's Inn was once the residence of the Barons Clifford, one of the first and proudest families in England. It was demised in the eighteenth of Edward III. by Isabella, widow of Robert de Clifford, to students of the law, for the yearly rent of 10*l.*

Lyon's Inn was originally a common guest inn or hotel. It was an inn of chancery in Henry V.'s time.—but how long before is uncertain. These three inns belong to the Inner Temple.

New Inn belongs to the Middle Temple. Like Lyon's Inn it was originally a common inn for travellers, and was known by the sign of the Blessed Virgin, and called Our Lady's Inn. Sir Thomas More was a student here before he entered as a fellow of Lincoln's Inn.

Furnival's and Thavie's Inns belong to Lincoln's Inn. Furnival's belonged to the Lords Furnival, a family extinct in the male line, as far back as the sixth of Richard II. It has been recently entirely rebuilt. It was from Thavie's Inn that the students emigrated who took possession of the Temple.

Of Staple Inn it is stated that the merchants who dealt in wool had their meetings there, whence it was termed Staple Hall. This and Barnard's belong to Gray's Inn.

It was ordered in the reign of Charles I. that the inns of Chancery shall hold their government subordinate to the benchers of the inns of court to which they belong.

The 'Law Student's Guide' says:—"Gentlemen are not now entered in the inns of Chancery with an intention of being called to the bar; for admission there could in no manner contribute to that purpose, as no allowance would be made for it in the inns of court. They are principally occupied by solicitors and attorneys."

The Irish Inns of Court, or King's Inns as they are there termed, were established after the model of the English inns, on the establishment of courts of justice in Dublin. By an old statute, Irish students must keep eight terms in one of the English inns, as well as nine in the King's Inns, Dublin, before they can be called to the Irish bar. The original intention of this statute was to cultivate English habits and associations, as well as to enable them to observe the working of the law in the courts at Westminster. It is complained of as a grievance. Irish students may keep terms in London and Dublin alternately, or in any other order they think proper. Gray's Inn is the resort of the generality of Irish students, it being by far the most convenient to them, not only on account of the facility of keeping terms there, but also that of admission, for they are not required at this inn to have their entrance document signed by two barristers, or to procure two housekeepers to enter into a bond. It will suffice if any other student or member of the inn sign both. There is also no charge made for absent commons, as in Lincoln's Inn.

The expensive, and to us apparently trifling and childish, revels and mummeries formerly exhibited in the inns of court by the grave practitioners of the law for the entertainment and amusement of the highest personages of the realm, are too conspicuous to be passed over in any account of these institutions. The toils of the law, and the dryness of study, were occasionally enlivened by the vagaries of the "lord of misrule," while the feastings on festival days, and the exhibition of masques, if they diverted the minds of the students, must also have occasionally tried their pockets. In the reign of Edward IV. each of the four inns of court were, by a mandate from the King, required to furnish out four armed men for his guard, at the justs then held in Smithfield betwixt Wydevile, Lord Scales, and the bastard son of the Duke of Burgundy, and they had also to set up a scaffold to see the ceremony, the expenses being defrayed by a rate. Lincoln's Inn, at the coronation of Henry VIII., laid out 5*l.* in making of scaffolds at Westminster to see the ceremony, and furnished a hogshead of claret wine, price 20*s.* A splendid mummery was exhibited in the Temple, in the 4th of Elizabeth, in which the celebrated Leicester, then Lord Robert Dudley, was the principal actor. Of this ceremony Gerard Leigh has given a grandiloquent account. He describes himself as having landed within half a league of London, after a long absence from his native country; when, drawing near the city, he "suddenly heard the shot of double cannons in so great a number, and so terrible, that it darkened the whole ayr; wherewith, although I was in my native country, yet stood I amazed, not knowing what it meant." Meeting an honest citizen, he is relieved from his alarm, for he meditated nothing short of a flight from the country. On demanding the "cause of this great shot," he is informed that it is "a warning shot to the constable marshall of the Inner Temple to prepare for dinner." He then describes the mummery as he saw it, which appears to have pleased him vastly. Amongst the mummers, on these occasions, was generally a master of the game, part of whose business was to provide a piece of cruelty for the entertainment of the spectators. A fox and cat were brought into the hall, and were set upon by dogs. A fox-hunt in so confined a space, for instance, as the hall of the Inner Temple, is rather an unfavourable specimen of the taste of our ancestors "learned in the law." In the 11th of James I. the Society of Lincoln's Inn presented a masque before the king, on the marriage of his daughter to the Elector Palatine, which cost the sum of 1086*l.* 8*s.* 11*d.* Three years afterwards the benchers of the same inn agreed upon a taxation of 40*s.*, every barrister 30*s.*, those under seven years 20*s.*, and every gentleman 13*s.* 4*d.* towards defraying the charge of a performance in honour of the Prince of Wales, afterwards Charles I. In the ninth year of Charles's reign, a grand masque was presented to that monarch by all the inns, the total expense of which was defrayed by Lincoln's Inn, and amounted to 2400*l.*, for which the fellows were all taxed.

In the steward's office of Lincoln's Inn, is the admission book, from 1671 to 1673, containing an account of a visit paid by Charles II. and his court. Sir Francis Goodericke being then reader of the Society, invited the King, Prince Rupert, and a number of the nobility, to dine in Lincoln's Inn Hall, which being accepted they were received in great state; "his majestie made his entrance through the garden, at the great gate opening into Chancery Lane, next to Holborn, where Mr. Reader and the rest of the benchers and associates waited his coming, and attended his majestie up to the tarras walke, next the field, and so through the garden, the trumpets and kettle-drums, from the leads over the highest bay window, in the middle of the garden building, sounding all the while." After dinner, when the monarch's heart was "merry with wine," he called for the admission book, and "with his own hand entered his royal name therein," thus, in rather a summary manner, enrolling himself a member of the learned body. His example was followed by all his attendants, from Prince Rupert down to Killigrew the Jester, and Ireland remarks that if we may judge from the appearance of the writing, many of them, and particularly Killigrew, must have been "a little *non compos mentis*."

These revels were considered of great importance, nor is it to be wondered at, when we recollect that though the study of law was the prime, it was not the only branch of education intended to be taught at the inns of court. The students were to be fitted in all those accomplishments considered necessary to a king's court; and so they were taught *dancing* as well as *law*. The under barristers of Lincoln's Inn were, in the seventh of James I., put out of commons as an example, "for that the bar refused to dance on the Candlemas-day preceding." These dancings were allowed four times in the year; and an individual was yearly elected director of the pastimes, and called Master of the Revels. Grand Christmasses were also celebrated, which were specially regulated: it was directed that the "King of Cocknies should sit on Childermas Day, and have due service; and that he and all his officers should use honest manners and good order, without any waste or destruction making in wine, brawn, chely, or other vitails;" and, moreover, that "Jack Straw and all his adherents should thenceforth be utterly banished, and no more to be used in this house [Lincoln's Inn] upon pain to forfeit for every time five pounds, to be levied on every fellow happening to offend against this rule."

Many of the regulations as to dress are not a little amusing. The Templars, in the reign of Mary, were forbidden to "wear any great bryches in their hoses, made

after the Dutch, Spanish, or Almon fashion; or lawnde upon their capps, or cut doublets," upon pain of three shillings and fourpence forfeiture for the first default, and the second time to be expelled the house. In the same reign a member of Lincoln's Inn was fined five groats "for going in his study gown to Cheapside on Sunday at ten in the forenoon." Queen Elizabeth specially regulated the beards, ruffs, and curled hair of the students; but the beards could not be restrained, for the fashion of wearing them grew so prevalent, as to effect, at one time, a repeal of all orders touching them. A better regulation was made respecting swords and rapiers. The young students, though studying the law, were apt at times to manifest a little order-breaking turbulence when they "went upon town;" and it was ordered "that no fellow of this society [Lincoln's Inn] should bear any sword or buckler, or cause any to be borne after him into the town, nor should any rapiers be borne in this house by any of the society."

In Henry VIII.'s reign, a student was expelled from Lincoln's Inn for "taking away the light from the image of St. John, in the hall, and hanging, instead thereof, a horse's head, in despite of the saint." In the same reign, there was a window in Gray's Inn Chapel "wherein the image of St. Thomas à Becket was *gloriously* painted; which window Edward Hall, one of the readers of this house at that time, was ordered to take out, in consideration of the king's command, in the thirty-first of his reign, that all the images of Thomas à Becket, sometime Archbishop of Canterbury, should be obliterated."

The authorities which have been chiefly consulted in drawing up this account were Dugdale's 'Origines Juridiciales,' Fortescue's 'De Laudibus Legum Angliæ,' Buck's account of the Inns of Court, appended to Stowe, Ireland's 'Picturesque Views of the Inns of Court,' and the 'Law Student's Guide.'



[Statue of Lord Erskine, by Chantrey, in Lincoln's Inn Chapel.]

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THE TYROL.—INNSPRUCK.



[Innspruck, the Capital of the Tyrol.]

THE Tyrol is one of the most mountainous and picturesque countries in Europe. Its towering Alps, its glaciers, lakes, and waterfalls are as striking as those of Switzerland, while its ruined towers, perched like eagles' nests on the summit of lofty rocks, and its royal and baronial castles built during the middle ages, far exceed in number not only what are found in Switzerland but in any country of the same extent. There are the charms, too, of picturesqueness of costume, and, among the peasantry, of a simplicity and primitiveness of manners, which would be sought for in vain in Switzerland except among the small mountain and pastoral cantons which do not lie on the traveller's route or the highway of Europe; and, though the Tyrol has been less fortunate than her neighbour in securing her independence and the blessings of a free and national government, the inspiring associations of patriotism and heroic courage are far from being wanting. Like the brave Swiss, the Tyroleans, few in number but bold in heart, have stood in their mountain-passes and driven back or destroyed hosts of foreign invaders; they have often sent forth the sacred voice of liberty over the land and the lakes that lie embosomed within it; and in our own days, when all the continent of Europe lay crouching before Buonaparte, the echoes of their sure rifles were heard ringing among the mountains, as, headed by Hofer, they maintained a most unequal and heroic struggle with the French and Bavarians. While, however, Switzerland is annually traversed by thousands of our tourists, the Tyrol, which may be called its next-door neighbour, is rarely visited by the traveller. The reasons for this are obvious enough, for Switzerland in good part lies on the great highway;—it is the road into Italy, and is very accessible on the side of France and Germany, whereas the Tyrol lies off the great route; it leads to nowhere, must be sought for itself, and is not particularly easy of access, seeing that the tourist must either make a circuit of part of Bavaria and cross the Bavarian Alps, or travel through the Grison valleys of the Engaddine, where all accommodations are of the roughest description. Within these few years, however, the late Mr. Henry D. Inglis, Mr. Brockedon, and Monsieur Frederick Mercey, have travelled through parts of Tyrol and published their notions on the country. From the accounts of these gentlemen, and of some older writers both foreign and English, as M. De Serres, Doctor Clark, and the Baron Caspar Riesbeck, a witty Ger-

man, who visited the Tyrol in the year 1780, we will endeavour to draw up some information for our readers.

A glance at a good map will show the situation of this rugged country, which is divided into two unequal parts, or the German Tyrol, which leans on Bavaria and Austria, and the Italian Tyrol, which slopes down to the lakes and the fertile plains of Lombardy. Drawing a line across the country from east to west, leaving Botzen to the north, all the territory lying northward of this line will be the German Tyrol, and all south of it the Italian Tyrol. The German portion is the larger by nearly one-third, but the Italian is, in proportion to its extent, much more populous, and abounding in larger and better-built towns and villages. The character, habits, and appearance of the people in the two divisions differ very widely. The inhabitants of the German Tyrol are passionately fond of liberty, and retain unalloyed much of the sturdiness, frankness, and simplicity of the old Germanic race. They are nearly all proprietors, and cultivate their own lands, and have thus a feeling of independence superior to what the mere hired labourer can experience. They preserve a national dress, primitive usages, and early hours. The inhabitants of the Lower or Italian Tyrol, on the other hand, are more patient of the Austrian yoke that weighs on the whole country; they for the most part cultivate the lands of others, and have been far less retentive of ancient manners and usages. Luxurious habits, late hours, &c., have crept into the larger of their towns; and their character in general has more of the suppleness and complaisance of the Italians than of the sturdiness and roughness of the Germans. A very considerable portion of the judges, commissaries of police, and civil *employés* of the Emperor of Austria, in Milan, and the other Veneto-Lombard cities, are natives of Lower Tyrol, and distinguished by their unscrupulousness and subserviency to their employer.

The valley of the river Inn, which runs through the whole northern portion of the country, may be called the principal part of Upper or German Tyrol. It is entirely shut out from the Lower or Italian Tyrol by a lofty chain of mountains, the only road over which is by Mount Brenner, at an elevation of 6000 feet above the level of the sea. This valley of the Inn, counting its twistings and turnings, is nearly a hundred miles long, but its greatest breadth is not much above eight miles, while in many parts, and for considerable distances, it is not above two or three miles broad. Innspruck, the capital city, a view of which is given in the engraving at the head of this article, is situated about midway in this valley.

The main territory of the Lower or Italian Tyrol is comprised in the valleys of the Eisach and the Adige, on which rivers the principal towns of this southern division, as Botzen, Lavis, Trent (the capital), and Roveredo, are situated. Notwithstanding its forests, lakes, rocks, glaciers, and mountains covered with perpetual snow, the Tyrol is a tolerably well-peopled country. Riesbeck says, that in his time (1780) it contained altogether about 600,000 souls, and annually paid to the Austrian government about 3,000,000 florins, (about 300,000*l*.) The silver and copperworks at Schawtz, in the Upper Tyrol, were among the most profitable things in the Emperor's hereditary dominions, and the saltworks at Halle, in the same division of the country, yielded annually about 300,000 florins. He states the population of Innspruck, which he calls a fine city, at 14,000 souls.

In 1830, M. Mercey, who seems to have taken some pains in composing his statistical tables, gives 620,000 souls as the amount of the whole population of the Tyrol, being an increase of only 20,000 in half a century. But in the interval between 1780 and 1830 the country has been desolated by war, and the Tyroleans, like the Swiss and Savoyards, are much given to emigration.

The stationary population of the city of Innspruck, independent of the garrison, does not at present exceed 12,000. But, though small, this metropolis of the Tyrol is a beautiful town, and contains many objects of great interest. The most remarkable of all these objects is the tomb or mausoleum of Maximilian I., in the cathedral-church of the Holy Cross. This vast monument with its accessories occupies a considerable part of the nave of the church. A tomb or sarcophagus of white and black marble, six feet high, and thirteen feet in length, surmounted by a bronze statue of the Emperor kneeling, and with the face turned towards the altar, stands in the midst of other dependent works of sculpture. The sarcophagus is partially inscribed with letters of gold, on a black marble ground; but the beauty of the work mainly lies in the bassi-relievi which cover the sides of the monument, and are sculptured in the finest Carrara marble, each compartment or tablet being divided from the other by a pilaster of jet-black marble. There are in all twenty-four tablets, which represent the principal events of Maximilian's life, such as his marriage at Ghent with the daughter of Charles the Rash, Duke of Burgundy, his coronation, as King of the Romans, at Aix-la-Chapelle,—his combat with the Venetians,—his defeat of the Turks in Croatia,—his sieges, marches and treaties of alliance.

Around this magnificent tomb stand, as if to keep guard over the dust of the deceased monarch, twenty-eight statues, in bronze, of kings, queens, princes, princesses, and stalwart warriors clad in armour. These statues surpass the dimensions of common mortality, being nearly eight English feet high. They represent or typify (for some of them must be wholly imaginary as portraits) the beings of Maximilian's admiration or affection. Among them are Clovis the First, King of France; Theodoric, King of the Ostrogoths; King Arthur of England; the Crusader Godfrey of Bouillon, King of Jerusalem; several of the early counts of Hapsburg, the ancestors of Maximilian, and of the now reigning Emperors of Austria; Mary of Burgundy, the first wife of Maximilian; the Archduchess Margaret, his daughter; Joanna, spouse of Philip I. of Spain; and Leonora, Princess of Portugal.

All who have visited this remarkable tomb, particularly in the gloom and silence of evening, agree in describing the effect produced by these figures as being most striking and solemn. When the mind is satisfied with the first impression, and the effect of the *tout-ensemble*, or united-whole, of the works, it may derive pleasure and instruction from an examination of the details; for the costumes of warriors covered from head to foot with plate-armour,—of princes with their crowns and royal mantles,—and ladies in their court-dresses,—are exceedingly curious, rich, and varied.

The tablets in low relief on the sides of the monument are not only curious, but beautiful as works of art. The numerous figures are all represented in their appropriate costumes, and are well grouped, while the views of cities and castles are given with remarkable felicity, being real landscapes in marble. With the exception of four by an inferior hand, all these tablets are said to have been executed by Alexander Colin, a native of Malines, a city in Belgium, who completed the work somewhere about the middle of the sixteenth century. M. Mercey says, somewhat doubtingly, that the gigantic bronze figures which stand round the tomb were cast by Louis Duca, a Dutch workman in the sixteenth century. According to Mr. Inglis, one of them, (the statue of Theodoric) is marked with the date of 1513. A popular tradition asserts that the

emperor Maximilian himself conceived the first idea of this grand monument, and shortly before his death designated the place his own statue should occupy in the group. Besides the imperial mausoleum, the church of the Holy Cross at Innspruck contains twenty-three statues in bronze of Catholic saints, one in pure silver of the Virgin Mary, several fine monuments in marble, and the tomb of the Tyrolean patriot, Andrew Hofer, which, though unmarked by bronze or marble, or "storied urn or animated bust," and only containing the mouldering bones of a man of the people—the keeper of an inn or public-house—calls for a larger tribute of sympathy and reverence than we can generally give to the proudest piles raised above the bodies of emperors and kings.

To make the story of Hofer intelligible, we must briefly trace a few of the events and circumstances of his native country. The ancient house of Hapsburg, which had its cradle in the neighbouring mountains of Switzerland, and whose chiefs eventually became dukes of Austria and emperors of Germany, obtained possession of the Tyrol in the fourteenth century, in part by marriage with a native princess in whom the succession rested, and in part by war and purchase; the Duke of Austria, after a fierce contest, paying a large sum to the Duke of Bavaria, for the relinquishment of his claims on the country. From that time until the year 1805, the Tyrol remained an appanage of the Hapsburg or Austrian family, who treated it with the mildness it has always used towards its hereditary states, and left it moreover in the enjoyment of all its ancient privileges, its diet, and other sufficiently liberal institutions. After the rapid campaign of 1805, when Buonaparte so shook the power of Austria that it was thought it could never again revive, he insisted as a condition of peace that the Tyrol should be ceded to his ally the King of Bavaria, and the Emperor Francis was compelled to make this sacrifice in the treaty of Presburg. This sudden transfer was made without the consent of the diet, and in direct opposition to the will of the Tyrolean people, who could ill tolerate the idea of being turned over from one master to another, like a flock of sheep, and who had also old grounds of pique and antipathy to the Bavarians, who had thus become their rulers. The king of Bavaria, indeed, solemnly guaranteed to them all their ancient rights, privileges, and usages, but the guarantee was only good on paper, and nothing in practice, for their representative states were suppressed, the public funds and savings arbitrarily seized, ecclesiastical properties suddenly confiscated, and new taxes levied. At the same time the prejudices and also the right feelings and notions of the peasantry, who are strong in many domestic virtues, were frequently insulted by the French and Bavarian soldiery. A bold, hardy, and proud race of mountaineers was not likely to submit to such wrongs. Discontent, and then hatred and revenge, spread rapidly on all sides; and an insurrection, favoured under-hand by Austria, was gradually organized. In 1809, when Buonaparte was again in the field against the emperor Francis, the Tyroleans rose almost to a man in Buonaparte's rear, opened communications with the Archduke John of Austria, who had descended with a formidable army into the neighbouring plains of Lombardy, and effected a powerful diversion in favour of the Austrian cause, being themselves firmly resolved to drive the Bavarians out of their country.

Andrew Hofer, who was living in his native village in the valley of Passeyer, and in the little inn his father had left him, was one of the first to take up arms, and his example and encouragement, added to those of his friends Speckbacher and Haspinger, had a wonderful effect on the peasantry.

Hofer, who was then about forty-two years of age, was a man of irreproachable morals and of more talent and education than were commonly found among his companions. He was gifted with a kind of rural eloquence; and his well-known bravery, his fortitude, and his commanding personal appearance, all combined to make him the chief of an essentially-popular insurrection. His attachment to the superstitions of the Catholic church, and, occasionally, to the bottle, only rendered him the dearer to a people who were all superstitious and generally rather fond of wine. It is reported of him that he at times led the peasants to victory with a rosary and crucifix on his breast, a sabre in one hand, and a bottle in the other.

Three means were resorted to in order to advise the mountaineers of the proper moment of rising in mass: sawdust was thrown on the rivers Inn and Eisach which carried the signal along in their rapid course,—fires were lit on the tops of mountains and on the ruins of the old castles,—and women and children ran from rock to rock, from glen to glen, from cottage to cottage, saying, "It is time!"

Hofer struck the first blow. He signally defeated the Bavarian troops in the valley of the Eisach, where, between killed, wounded, and prisoners, they lost 900 men. On the same day his friend Speckbacher drove the Bavarians out of the important town of Halle; and shortly afterwards, 20,000 peasants took Innspruck, the capital, in spite of the obstinate defence of General Kinkel and Colonel Dittfurt, who disputed every inch of ground. Dittfurt, when dying of his wounds, asked what distinguished officer had led them on so well to battle. "No one," said the Tyroleans; "but we fought for our religion, the emperor, and our father-land!"

We cannot enter into the details of the numerous battles and skirmishes in which, though ill supported by the Austrians, Hofer and his companions were long victorious. The loss of the Bavarians—attacked on all sides, in narrow valleys and deep chasms, from dense woods and overhanging rocks—was terrible; but the brave peasants were guilty of no unnecessary cruelty. M. Mercey, a Frenchman, says, "They only killed those who resisted. 'Cut me down those fellows as long as they stand up against you,' cried Hofer; 'but once down, give them quarter! Only a coward strikes a man that is on the ground, because he is afraid he should get up again.' This was the Spanish insurrection, with its monks, its peasants, and its guerillas; but it was the Spanish insurrection without its crimes and its horrors; and if there was inhumanity on one side, it was certainly not on that of the Tyroleans. They at least did not murder their prisoners after the battle. Hofer, when a conqueror, spared the lives of his opponents, but, when conquered, his own life was not spared."

The feeble and dispirited battalions of Austrian troops sent to co-operate with Hofer, did almost more harm than good, and Chasteler, their general, soon beat a retreat. After some successes obtained in the north of Italy by the Archduke John, the tide of fortune turned, the French were successful everywhere, and a second time took Vienna, the capital of the Austrian empire. Marshal Lefevre entered the Tyrol with a strong French and Bavarian army by the valley of the Inn, and Generals Rusca and D'Hilliers began to penetrate on the other side by the valley of the Adige. It was expected that at the appearance of these fine armies, the undisciplined Tyroleans, who were unprovided with artillery and most of the *materiel* of regular warfare, would at once lay down their arms and submit to the Bavaro-French government; but, though almost entirely left to their own resources, Hofer and his comrades did not so understand it. They rallied in their mountains, and, descending rapidly from the Iselberg, defeated the Bavarians, who had 9000 men and twenty-five pieces of artillery. They thoroughly beat

a body of French and Saxon troops in the valley of the Eisach; and when the Duke of Dantzic attempted to force a narrow gorge near to Stertzing, they destroyed nearly the whole of his van-guard, which consisted of 4000 picked Bavarians. In performing this last exploit they did not consume much gunpowder, for their unerring rifles were only used when the invading army was thrown into confusion, and the work almost done. They kept possession of the perpendicular rocks which rose like walls on either side of the pass, and having brought immense stones, trunks, and arms of trees to the very edges of the precipices, they kept them suspended there in large masses by means of ropes, until the enemy was engaged in the narrow gorge, and fairly beneath them. Then a voice was heard, saying, "Hans, is everything ready?" "Yes!" was shouted among the rocks; on which the word of command was given, "In the name of the Father, Son, and Holy Ghost, let go your ropes!" The next moment more than a thousand of the Bavarians were crushed, smashed, and buried under a frightful mass of trees, stones, and rocks. Then the sure rifles of the peasants flashed from every corner, and the Duke of Dantzic was forced to flee, abandoning his cannon and nearly all his baggage to the Tyroleans. Nearly at the same time the forces which had attempted to penetrate by the valley of the Adige were routed with tremendous loss. A few days afterwards Hofer followed up the Duke of Dantzic, who had concentrated all his forces, and beat him in a pitched battle. The result of this gallant engagement was the immediate evacuation of the Tyrol by the Bavaro-French armies, and the establishment of a provisional government, of which Hofer took the direction; for the court of Austria was too much embarrassed to attend to the affairs of the country.

Had the regular armies of Austria done their part of the great work but half as well as the peasants of the Tyrol did theirs, the career of Buonaparte might have been ended in 1809 instead of 1815, and six years of war and bloodshed spared the world. But, as we have already said, after a good beginning they failed everywhere. On the 6th of July they lost the decisive battle of Wagram, on the 12th they entered into a most humiliating armistice, and on the 14th of August the late Emperor Francis signed the disgraceful treaty of Vienna, by which the brave Tyroleans were again formally given over to the Bavarians. Although they knew that the whole might of Buonaparte could now be turned against them, and although the Emperor Francis, on one side, recommended them to submit, and Beauharnois, the French viceroy of Italy, on the other, proclaimed that such as continued the war should no longer be treated as soldiers, but as rebels and brigands, Hofer and many of his comrades determined to make one effort more for their independence. They defeated the French in the valley of the Passeyer (Hofer's native valley), and killed, wounded, or took prisoners upwards of 2000 men. But the contest was too unequal, and this was the last of their successes. They were hunted from post to post, from rock to rock;—they were obliged to conceal themselves like wild beasts in the depths of their forests, in their remote caverns, or on the tops of their mountains, and this during all the rigour of winter. Some laid down their arms, some escaped into Austria, more were taken prisoners by the French, who kept their word, and shot them like brigands, and at last Hofer was left almost alone.

From the beginning of December, 1809, to about the middle of January, 1810, this remarkable man, on whose head the French had put an enormous price, lay concealed in a small hut, situated in a rocky hollow, near the summit of one of the loftiest mountains of the Tyrol. But, besides his family, a friend and former confidant knew the place of his retreat, and had the baseness to betray him. This villian was a priest;—his name (may it be for ever execrated!) was Douay. In the darknes of night he led a strong detachment to the spot, and the hut was surrounded. Hofer's fortitude did not quail at this awful moment. He presented his breast to a company of grenadiers, saying, "I am Andrew Hofer! Frenchmen, fire! kill me at once, but save my wife and children!" The soldiers rushed upon him, and, having loaded him with chains, carried him down to Meran, where he was joined by his family, consisting of his wife, a son about twelve years old, and a daughter. From Meran he was marched to Botzen, and thence he was sent, under a strong escort, to the fortress of Mantua, which was already crowded with his unfortunate countrymen. The only tears he was seen to shed was when they forcibly separated his wife and children from him at Botzen.

A French court-martial, presided over by General Bisson, was soon assembled. The injustice of the case—the heroic bravery and humanity of the prisoner—pleaded strongly in his favour; and it is due to the French officers to state that the majority of them were for a sentence of limited confinement, and that two of them had even the courage to vote for a full acquittal. But, as far as justice and mercy were concerned, these tribunals were mere farces. The doom of Hofer was signed by a higher hand, and the commands from Paris, conveyed from Milan to Mantua by telegraph, were, that Hofer should be condemned and shot within twenty-four hours. He died as he had lived, a brave and religious man. The following remark by M. Mercey is characteristic of his nation, but contains a fact rather honourable to it:—"They killed him out of obedience. After his death, however, they rendered him the same honours that are paid to a general officer; and the body of the Tyrolean patriot was carried to its last home on the shoulders of French grenadiers."

The Emperor of Austria, who could hardly do less,



[A Tyrolese Peasant.]

assigned a pension to his family; and, in 1823, he ordered that the remains of Hofer should be brought from Mantua to Inspruck, and there interred in the cathedral-church of the Holy Cross. On the 22nd of February six of the patriot's companions in arms entered the metropolitan church bearing the coffin, upon which lay the broad-brimmed peasant's hat and the sword of the hero. An immense concourse of Tyroleans followed to the tomb, over which the Austrians spoke of erecting a monument, which as far as we are informed, has not yet been executed.

MINERAL KINGDOM.—Section XL.

Silver (*concluded*).

Silver-Mines in Europe.—This metal has been found for many ages in various countries of Europe. The most productive mines have been those of Saxony, Austria, Hungary, Norway, Russia, and Spain. But the average annual produce of all the mines of Europe in the last twenty years of the eighteenth century, according to Mr. Jacob, did not exceed 600,000*l.* in value. The mines of Saxony were first discovered in the tenth century; and, in the early part of the thirteenth, the mines of Schneebrog are said to have yielded 300,000*l.* annually. If this account be true, there has been an immense falling-off of late years, notwithstanding the skill, economy, and industry practised in the mines of Saxony, which are excelled in these respects by none in any part of the world; for the annual produce of all the mines, taken on an average of late years, cannot, Mr. Jacob says, be estimated higher than 400,000 ounces of silver, or about 100,000*l.* The richest of the Saxon mines is that called Himmelfürst, a short distance from Freiberg, of which Humboldt gives an account in drawing a comparison between it and the Valenciana mines, at that time the richest in Mexico. There are five veins which traverse the primary slate-rock, called gneiss by geologists, the principal vein being from eighteen to thirty-six inches in width. The ores are native silver, sulphuret, and red silver; and there is a sulphuret of lead, or galena, which is rich in silver. The average richness of all the ores is, however, not more than from six to seven ounces in 100 lbs., and the average annual produce was then only 6160 troy lbs., or about 18,500*l.* in value.

The mines of Austria were the chief sources of mineral wealth during the middle ages; but their produce in silver appears at no period to have been considerable. They are situated in Hungary, Bohemia, and the Tyrol. Those of Chemnitz and Kremnitz, in Hungary, have been worked, it is said, above a thousand years. The silver they produced was chiefly obtained from an ore of lead, which yielded from two to twenty-two ounces in the hundred pounds. The silver-mines of Bohemia were in Joachimsthal, in the circle of Saatz, where there are galleries, or horizontal passages, which have been excavated in the interior of the mountain to an extent of more than six miles; and there are vertical shafts, or pits, 2100 feet deep. The silver-mines near Brixen, in the Tyrol, were formerly very productive, but they have long ceased to be so.

The mine of Kongsberg in Norway, according to Bergmann, was, in the middle of the last century, the richest in Europe. It yielded, from the year 1728 to 1768, about 649,270 troy pounds of silver, equal in value to nearly 2,000,000*l.* sterling. Native silver was the chief form in which it was found, but it produced also the sulphuret and red silver ores. Near the town of Sala, in Westmanland in Sweden, there is a lead-mine, the ore of which (galena) yields a large proportion of silver. It has been wrought for 300 years, and the produce of silver from it was formerly as much as 18,000 troy pounds annually, but it has greatly fallen off from that for many years.

The silver of Russia comes from the Ural mountains, and is wholly obtained from the refining of the stream gold, which contains from one to fifteen per cent. of silver, and from lead ores. Gmelin, the traveller, found, in the eastern parts of Siberia, remains of ancient works which had belonged to silver-mines, and he remarked that the lead, with which it had been combined in the ore, was left behind. These mines had produced 28,005 poods of silver from the year 1811 to 1828, which is equal to 1,260,225 troy pounds, or nearly 3,800,000*l.*

Silver-mines were worked in Spain by the Phœnicians, Carthaginians, Romans, and Moors; but as the discovery of America took place soon after the cessation of those intestine troubles which had for a long time desolated the country, and had almost destroyed all works of enterprize, the mines of the precious metals in the mother country became less an object of attention, and, indeed, an edict was issued forbidding the working of the mines, in order to favour the new colonies. During the dominion of the Romans the principal mines were in old Castille, near Soria, the ancient Numantia, Azagala, and Burgos, where remains of the old works are to be seen. The mines of Guadalcanal and Cazella, in Estremadura, are the only ones which, in later times, have been worked with regularity, but even these are now wholly abandoned as unprofitable. Those of Guadalcanal are supposed to have been discovered in 1505, and it is said that, in the course of some years, they had yielded about 330,000*l.*, which was expended in building the great palace of the Spanish monarchs,—the Escurial. In the year 1598 they were leased to two brothers, Germans, of the name of Fugger, who were celebrated as the most skilful miners of that age; and during their occupancy of them they acquired immense wealth. Both brothers were created counts in Spain, and they built a street in Madrid which still bears their name, the "Calle Fucares;" but they transmitted the greater part of their fortune to their native country, where they founded families, which were ennobled, and still exist in Germany. They were discovered to have defrauded the government by erecting a coining-machine in the mines, and were obliged to make their escape from Spain in 1635; but they took severe revenge, for, before their flight, they turned a stream of water into the mines, by which they became completely inundated. They remained neglected till 1728, when the working of them was undertaken by an English lady, the Lady Mary Herbert, a daughter of Lord Powis, who had resided in Paris, and had been connected with the famous schemer, well known by the name of Mississippi Law, and had thus imbibed a taste for enterprizes of an extensive scale. But after the outlay of a large capital, obtained from persons whom she had been able to persuade to join in the adventure, and endless trouble and litigation with the court of Spain, the scheme turned out a complete failure.

In treating of lead we have mentioned that the silver is extracted from the ore of that metal at the principal lead-mines of England; but, as no return is made of the quantity to any public office, there are no means of ascertaining with accuracy what the amount of silver is. Taking the produce of all the mines of England at 50,000 tons annually, and the average amount of silver to be ten ounces in the ton, we have 500,000 ounces, and reckoning fine silver at 5*s.* 6*d.* per ounce, we have a value of 137,500*l.* With the exception of the silver so obtained, it is now only occasionally found, and that only in small quantities, in any part of the United Kingdom. Native silver, and several of the other varieties of the ores, are met with in many of the copper-mines of Cornwall; but there are no indications

to warrant any rational belief that silver constitutes one of the mineral treasures of this country. About fifty years ago a vein of silver-ore was, for a short time, wrought with great advantage in the parish of Alva in Stirlingshire; the ores were native silver and the sulphuret, and from 40,000*l.* to 50,000*l.* worth were obtained before they were exhausted; after which every search to recover the vein proved fruitless, and since that time no silver has been obtained in any part of Scotland. In the year 1607 a silver-mine was discovered at Hilderston, near Linlithgow, and in the General Register House at Edinburgh are preserved the original accounts of the workings there, in three folio volumes, entitled, 'The Accomptis of ane noble Lord George, Erll of Dunbar, Lord Home of Berwick, Lord Heighe Thesaurair of Scotland, and Lord Governour of his Majesties Mynis within the same kingdome. What the produce was, or when they were given up, does not appear; but the 'Summa of the haill money debursit in ordinary and extraordinary expensis, and upon materiallis and all other necessaris for the Kingis most excellent Majestie his Silver Mynes of Hilderstoun, fra May 8, 1608, to December 2, 1610,' was 39930 pounds Scots, or about 3327*l.* sterling.

Of the silver formerly obtained from Asia, we know but little, and a small amount has been derived from thence in modern times. There are silver-mines in the province of Erzerum, in Armenia, which yield at present about 120,000*l.* annually. None are known to exist in Persia, or in any part of the possessions of the East India Company. But there are some in the eastern part of China: of these we know nothing more than that they exist; but that they have become very productive of late years is evident from the remarkable fact, that China from being an importing is now an exporting country for silver. Canton exported silver to England, in 1832, equal in value to 390,000*l.*, and about as much more to India; and a considerable part of this large export is native silver*. Silver does not appear to be a product of any part of Africa, as known in modern times. This metal is spoken of in the earliest records of the history of the human race; and from numerous passages in the sacred writings, it appears to have existed in considerable abundance. Among these the following are remarkable:—"And all King Solomon's drinking-vessels were of gold; and all the vessels of the house of the forest of Lebanon were of pure gold; *none were of silver,—it was nothing accounted of in the days of Solomon*."—"And the king made silver to be in Jerusalem as stones, for abundance." —1 Kings, c. x., v. 21 and 27. There are innumerable passages in the Classics which also bespeak great store of silver, and which render it probable that the supply had not only not diminished, but had been considerably augmented. We have no very distinct accounts from what mines it was chiefly obtained. Herodotus speaks of silver-mines in Cyprus; and, according to Xenophon, the Athenians had worked the silver-mines of their own country from an unknown period; and they acquired a considerable revenue at one time from mines in the Island of Thasus, on the coast of Thrace. Epirus had silver-mines which continued to be worked to the time of Strabo.* However unproductive the mines of Spain now are, they appear to have yielded a considerable quantity in former times. Pliny relates that a mine called Bebulo, from the discoverer, supplied Hannibal with 300 lbs. of silver daily. Polybius, as quoted by Strabo, says that the silver-mines near to New Carthage were very productive. They were distant from the city about 20 furlongs, and embraced a circle of 40 furlongs, wherein 40,000 men were employed. Silver used to be got by the ancients from the Island of Sardinia in considerable quantities, and Mr. Jacob thinks, most probably, from a lead-ore, as a vein of galena is mentioned by Captain Smyth to exist near Rio de Caro, which yields six ounces of silver in the quintal, or 102 lbs.

* 'Macculloch's Commercial Dictionary.'

Uses.—Silver is applied to no purposes in the arts otherwise than in the metallic state, with the exception of one preparation of it when in combination with nitric acid. The lunar caustic used by surgeons is a nitrate of silver, and it also forms the basis of the indelible ink used for marking linen. Its various applications in the metallic state it were superfluous to mention. When used for coin and for plate, it is always alloyed with copper, in order to increase its hardness. Our standard silver consists of 12⅓ parts of silver and 1 part of copper; but the maximum hardness is produced by a mixture of one-fifth part of copper. The amount of silver coined at the Mint, in London, from the commencement of the silver-coinage in 1816 to the 31st of December, 1829, was in value 9,148,986*l.*; and it was coined into 1,849,905 crown-pieces, 28,007,490 half-crowns, 83,662,920 shillings, 40,027,680 sixpences: and 1735*l*, were coined into the silver-pennies which are distributed by the Lord Almoner, in Whitehall Chapel, to the pensioners of his Majesty on Maunday Thursday.

For the greater proportion of plated goods, especially those of the best quality, the metal is thus prepared. A bar of copper is made quite smooth and clear on one of its surfaces; this is sprinkled over with glass of borax, and there is laid upon it a plate of fine silver, about one-twelfth of the weight of the copper, and the two are carefully bound together by wire. The mass is now exposed to a full red-heat, which melts the borax and causes the silver to adhere to the copper; the ingot is now passed through a rolling-press and formed into a plate, both the silver and copper extending uniformly during the whole process, at the conclusion of which the two metals are inseparably fixed to each other. Another mode of plating is by the process called "*silvering*,' when an amalgam of silver and mercury is well rubbed upon the surface of the copper: by the application of heat the mercury is driven off, and the silver remains behind, adhering firmly to the copper, and capable of being highly polished.

FABLES.—No. I.

The Wolf and the Lamb.

We doubt not that the more juvenile readers of the 'Penny Magazine' will be well pleased to learn that it is our intention to furnish them with an occasional illustration of some one of the more interesting fables attributed to Æsop. These fables are admirably calculated for illustration by wood cuts; and they have been accompanied by such illustrations almost from the time of the invention of printing. In order to render this class of subjects generally acceptable to *all* our readers, we shall occasionally preface the account of the fable illustrated, by stating such particulars on the general subject as may seem to us curious or interesting.

The good opinion of fables which we contract during our childhood, and the recollection of the enjoyment they afforded, very generally dispose us to regard them with complacency in after-life. Nor is this feeling misplaced. There is no possible reason why, when our minds and tastes have acquired maturity, we should look back with unkindness or scorn upon that which was a fitting aliment when they were young and immature. These compositions are, in fact, admirably calculated to make impressions on uncultivated or unformed minds, and to convey, in the most agreeable form, moral instruction to them. Hence it is that fables enjoy such high popularity, not only among children, but among all rude and only partially civilized

people. The same vehicle which in one state of society conveys instruction to the minds of men is chiefly left in another, more advanced, to perform the same office for children. Sometimes, however, when a man of high genius, such as La Fontaine was, infuses his own particular vein of talent into these homely vehicles of instruction, the fable that was alluring to the child becomes delightful to the man;—and thus fables have, more or less, ultimately come to form an important portion of the most refined literature.

Fables are of such high antiquity that our earliest information concerning them, which dates nearly 3000 years before our present era, leaves us to infer that they were then familiar, and had long been in use. It is not difficult to discover the purposes for which they were first employed, and the occasions in which they originated. They appear to have arisen among people who, as hunters or shepherds—most probably the latter—had ample opportunities of observing the conduct of certain animals towards each other. Some of the facts which they observed must have struck them as analogous to the conduct of men to men; and when such conduct among their companions happened to come under their notice, they would naturally quote the illustration for the sake of the instruction or reproof it conveyed. Besides, in a limited society, this method of conveying warning or reproof was, perhaps, the only one which could be employed without offence. It must soon have been clear to those reflective minds which have existed among all people and in all ages, that it was desirable to adopt some form of instruction which might insinuate the truth, and beguile men into goodness, without giving just cause of offence to any. In this case, the apologue was evidently the most obvious and simple resource, extracting from the common objects by which men were surrounded, and from the animals which were familiar to them, lessons of strong instruction, warning, and reproof. There is also a charm attending this mode of instruction which is almost peculiar to it, and which must have procured for fables a powerful preference from the rude men to whom they were originally addressed; this is, that they gratify the activity of the human mind by affording it an opportunity of exercising its own penetration in discovering that which the fable partially veils.

It is thus that in eastern countries a fable is almost the only medium through which truth can be conveyed to the ear of a despot; and it is thus that, as we read, truth has sometimes been made acceptable to a turbulent people. On the former point Sir John Malcolm has the following observation in his 'History of Persia.'

"The Persians, as a nation, delight in tales, fables, and apophthegms: the reason of which appears obvious; for where liberty is unknown and power in all its shapes is despotic, knowledge must be veiled to be useful. The ear of a despot would be wounded by the expression of a direct truth; and genius itself must condescend to appear in that form in which alone its superiority would be tolerated."

It seems a remarkable confirmation of this view that two of the most eminent and best-known fabulists, Æsop and Phædrus, were both slaves. A fable seems to be the most natural form in which a slave would convey reproof or instruction to his master.

Among the fables which history records to have been addressed with good effect to riotous mobs, that of the 'Belly and the Members,' by which a Roman senator succeeded in appeasing a dangerous tumult, will occur to the reader's mind. It is also remarkable that the earliest, and perhaps the best, ancient fable which has been transmitted to us, was addressed as a warning to a tumultuous assembly. We mean that of 'Jotham,' to the 'men of Shechem,' in which he describes the trees as elevating a king—a distinction which is prudently declined by the olive, the fig-tree, and the vine, but which is greedily accepted by the bramble, on condition that—"If in truth ye anoint me king over you, then come and put your trust in my shadow: and if not, let fire come out of the bramble and devour the seeds of Lebanon*."

Fables, understood in the largest sense of the word, have been conveniently, if not very accurately, divided into Rational Fables, Moral Fables, and Mixed Fables.

Rational Fables are narrations of things supposed to have been said and done by men, and which might possibly have been said and done, though in reality they were not. This class is necessarily very extensive, comprehending all the species of fiction which profess to exhibit the conduct and characters of men, from the epic poem and the romance down to such fables as the 'Old Man and his Ass,' the 'Shepherd's Boy and the Wolf,' the 'Travellers and the Bear,' &c., which occur in the common collections of fables. This class will also include nearly all the little narratives which are called parables in Scripture. Indeed the earliest specimen of this sort of fable occurs in the Old Testament, and it is so very beautiful, and so strikingly illustrates our previous remarks on the ancient uses of fable, that being conveniently short, we cannot refrain from introducing it. In the Book of Samuel we are told that David in the time of his prosperity indulged a passion for a married woman, which in the end induced him to resort to a successful contrivance for procuring the death of her husband. To awaken his conscience to the enormity of his conduct, a prophet was sent to him, and thus addressed him:—

"There were two men in one city, the one rich and the other poor. The rich man had exceeding many flocks and herds: But the poor man had nothing save one little ewe lamb, which he had bought and nourished up: and it grew up together with him, and with his children; it did eat of his own meat, and drank of his own cup, and lay in his bosom, and was unto him as a daughter. And there came a traveller to the rich man, and he spared to take of his own flock and his own herd, to dress for the way-faring man that was come unto him; but took the poor man's lamb and dressed it for the man that was come to him." This touching little fable was perfectly successful in its object. We are told that "David's anger was greatly kindled against the man, and he said to Nathan, As the Lord liveth, the man that hath done this thing shall surely die: And he shall restore the lamb fourfold, because he did this thing, and because he had no pity. And Nathan said to David, Thou art the man!" It is impossible to imagine anything more forcible than this application, after the criminal had been unwittingly led to pronounce sentence against himself.

The second class of fables, according to the arrangement we have mentioned, are those called *Moral Fables*, or Apologues, in which not only beasts but trees and other inanimate substances are introduced as actors and speakers. It therefore differs from the former class in this, that it does not contain possible circumstances, since beasts cannot speak, and vegetables cannot think, as they are represented to do. It seems to us probable that the branch of fable which describes the actions and imagines the speeches of beasts is the earliest form of fiction. Nothing could be more obvious to persons conversant with animals, as the ancient shepherds and hunters were, than to suppose beasts to express their impressions to one another under certain circumstances. To extend the same power to vegetables, was not nearly so obvious an idea, and most probably resulted from a desire to enlarge the limits of this class of fable. Some of the considerations stated

* Judges x., 15.

at the commencement of this article seem to render it unlikely that what is called the "Rational Fable," should be the earliest form of fiction. Fables of the present class are frequently called "Æsopic Fables" not because Æsop was the inventor—for they were in use long before his time—but because he excelled in them beyond any of his predecessors. We have already mentioned Jotham's fable of the Trees as the earliest existing specimen of this class of fable.

The remaining class is designated *Mixed Fables*, because they combine something of both the preceding classes, as men and beasts are introduced in them conversing together. There are many of these in the common collections. The following, which is not contained in those collections, is one of the best we happen to have met with. It was delivered by a petty king with the view of dissuading the ancient Gauls from allowing to certain foreigners who had lately come among them the desired permission to build a city. He told them that a bitch, large with young, begged of a shepherd a place to lay her whelps in; and when she had obtained it, she further asked for leave to rear them there. This she also obtained. At length the whelps grew up, and then the bitch became bold, and, depending upon the strength of her family, claimed the property of the place. By this fable it was obviously intended to intimate that the persons who now appeared as strangers would hereafter, if permitted to settle, claim to be masters of the country.

The fable which is illustrated in our present Number, as well as the others which we purpose to furnish, belongs to the class of Moral Fables, or Apologues. Of the many versions which offer themselves for preference, we cannot in the present instance find one that satisfies us better than that which is in Dodsley's edition, published in 1764. We may here add, that, in the remaining fables, we shall make it a point to select that version, whether in prose or verse, which seems to us the best or most interesting.

"*The Wolf and the Lamb.*—A wolf and a lamb were accidentally quenching their thirst together at the same rivulet. The wolf stood towards the head of the stream, and the lamb at some distance below. The injurious beast, resolved on a quarrel, fiercely demands, 'How dare you disturb the water which I am drinking?' The poor lamb, all trembling, replies, 'How, I beseech you, can that possibly be the case, since the current sets from you to me?' Disconcerted by the force of truth, he changes the accusation. 'Six months ago' says he, 'you vilely slandered me.'—'Impossible,' returns the lamb, 'for I was not then born.'—'No matter, it was your father then, or some of your relations.' And immediately seizing the innocent lamb, he tore him in pieces."

Leonard Willan, in his version of Æsop, published in 1650, under the title of 'The Phrygian Fabulist,' has not been very successful in this fable, but his 'Moral' is quaint and pithy.

"Licentious Powers thus often circumvent,
By false pretences, the poor Innocent;
But if those fail their purposes to form,
Another's crime must then his guilt suborn,
As accessor to what the charge had mist,
'Tis crime enough that he can not resist."

The last line seems to have so much pleased the author of a later and more popular version in the same century, that he repeats it in his "Moral," which is as follows:—

"It is an old saying, *That it is an easy matter to find a staff to beat a dog.* A man in power, if he list to hurt, easily takes occasion of doing mischief. He hath offended sufficiently who cannot resist."



[The Wolf and the Lamb.]

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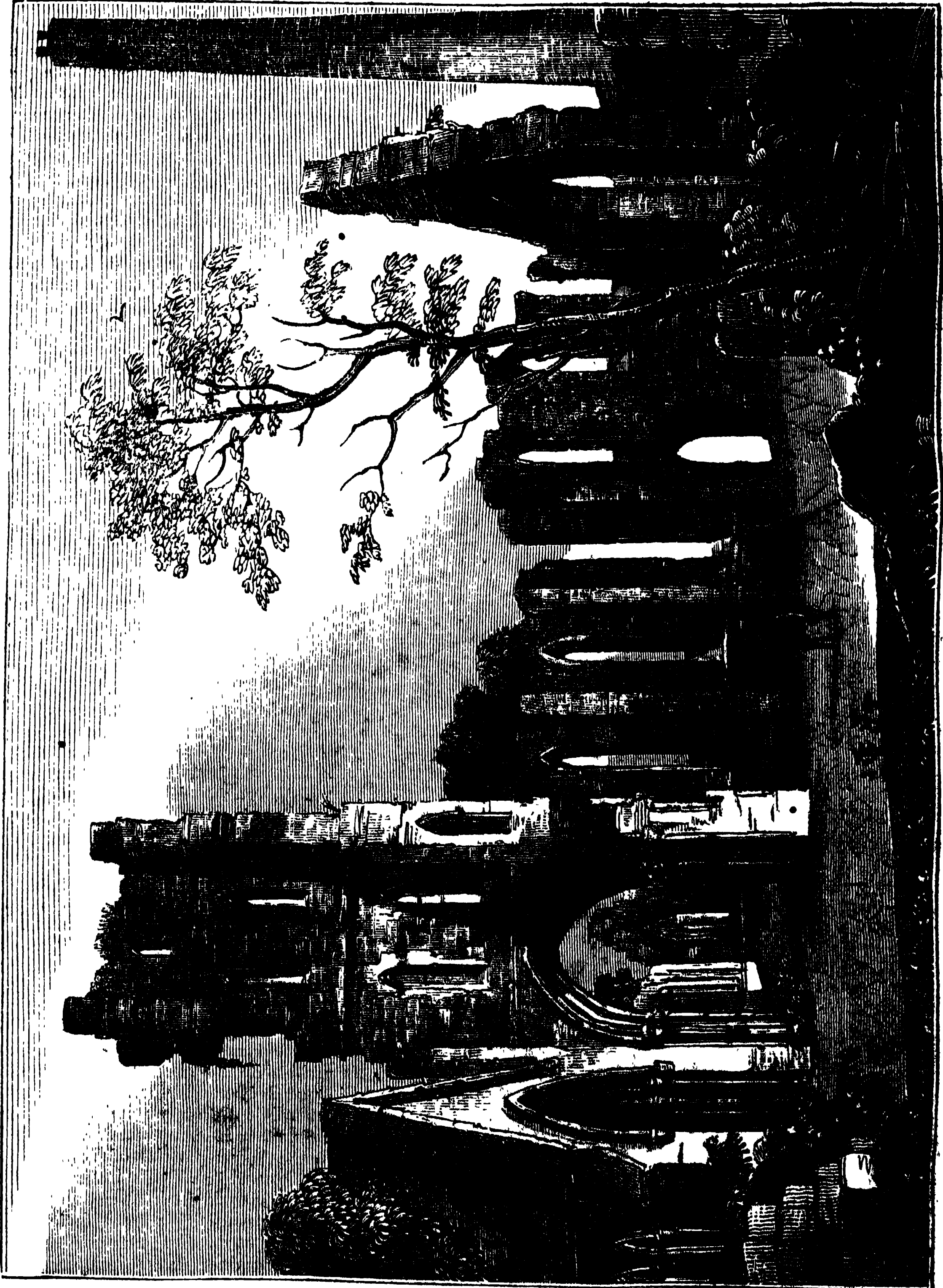
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KILDARE.



[Ruins of the Cathedral of Kildare.]

Kildare, although the capital of a county in Ireland, and giving name to a bishoprick, is a very inconsiderable place, not containing more, according to the last census, than 1753 inhabitants. It is twenty-eight miles from Dublin, and is a borough governed by a sovereign, a recorder, and two portreeves. It is pleasantly situated upon a rising ground; but the buildings are of an inferior description, forming one

tolerable street and a few lanes leading therefrom. The place has no trade, and is chiefly supported by the horse races, which are held on an extensive common in the neighbourhood, called the Curragh of Kildare. This is a large plain, formerly surrounded by a wood of oaks, which gave the name of *Chilledair* to the town, and was anciently the seat of Druidical worship until the time of St. Brigid, whom we shall presently have occasion to mention. It is esteemed as fine a common as any in Europe, containing about 5000 English acres, and forming a most beautiful lawn, on which large numbers of sheep are pastured. This is the Newmarket of Ireland, and in some respects is considered to exceed our own. The meetings are held in April, June, and September, when king's plates are run for by Irish-bred horses. These plates were originally given at the suggestion of Sir William Temple, who, among other schemes for the benefit of Ireland, recommended this, with a view to the improvement of the Irish breed of horses. The place was, however, remarkable for its horse-races long before king's plates were established.

Although of little importance at present, Kildare contains some interesting evidences of its former consideration. The principal of these is the cathedral, the greater part of which is in ruins, the choir only being now in a fit condition for religious services. The ecclesiastical establishments for which, more than for any thing else, Kildare was formerly distinguished, owe their origin to St. Brigid. This lady, who was the illegitimate daughter of an Irish chieftain, was born in the year 458. In her fourteenth year she received the veil from the hands of St. Patrick, or one of his immediate disciples. She afterwards visited the abbey of Glastonbury in Somersetshire, and on her return (or, at any rate, before 484) founded a nunnery at Kildare. About the same time an abbey was also founded under the same roof for monks, but separated from the nunnery by walls. The monks and nuns had but one church in common, which they entered by different doors. St. Brigid presided as well over the monks as the nuns, and, "strange to tell!" exclaims Archdall, the abbot of the house remained subject to the abbess for many years after the death of the celebrated foundress, which took place on the 1st of February, 523. She was interred at Kildare; but her remains were afterwards removed to the cathedral-church of Down, and laid beside those of St. Patrick and St. Columb. This St. Brigid or Bridget became quite the Virgin Saint of Ireland, and next to the names of the Virgin Mary and St. Patrick her name obtained more reverence than any other in the calendar.

The amount of the influence which this extraordinary female acquired may be estimated from the fact, that she is represented as the foundress not only of the monastery but of the see of Kildare. It is stated that she appointed as bishop a person variously called St. Conlæth, Conlaid, and Conlian, who, with her assistance, erected the cathedral. Some writers, however, contend that there were bishops of Kildare before this personage; but Sir James Ware prefers the authority of the persons who have written the life of St. Brigid. One of these gives this account of the transaction:—"Conlian, an holy bishop and prophet of the Lord, who had a cell in the south part of the plains of Liffi, came in his chariot to St. Brigid, and abode with her; and the holy Brigid elected him bishop in her city of Kildare." In the next century, Aod Oubh, or Black Hugh, the King of Leinster, withdrew to the monastery of Kildare, of which he in time became abbot, and afterwards bishop of the see. The first Englishman who occupied the see was Ralph of Bristol, who died in 1232. This prelate went to great expense in repairing and ornamenting the cathedral. In the reign of Henry VII. it had again fallen into decay, and was repaired by the bishop Edward Lane, who died in 1522. It was a fine old Gothic building, now mostly in ruins. The walls, however, are still standing, together with the south side of the steeple and the walls of the nave, which has on the south side six Gothic arches and six buttresses. The north side of the steeple is level with the ground, and is said to have been beaten down, with other parts of the building, by a battery planted against it during the disturbances in 1641. The choir, in which the church services are still performed, affords little matter for remark. It is kept in decent repair, and a handsome Venetian window supplies the place of an old Gothic one, which was much admired. The south wing, which was formerly a chapel, is a mass of ruins; but two statues in alto-relievo may still be noticed. One of them represents an ancient knight of the Fitzgerald family, clad in very curiously-cut armour, and surrounded by heraldic escutcheons; and the other a bishop with his pastoral staff and mitre, supposed to be the Bishop Lane already mentioned.

At the distance of about thirty yards from the west door of the cathedral stands a very fine specimen of those "Round Towers" which so frequently occur in Ireland, and have occasioned a vast quantity of unprofitable speculation. The round tower at Kildare, which is included in our wood-cut, is one of the best finished and most skilfully-built structures of the kind in Ireland. It is built of white granite to above twelve feet above the ground, the superstructure being of common blue stone. It is about 130 feet in height, and battlemented at the top, and has, about fourteen feet from the foundation, a large arched aperture, apparently intended for a door. At no great distance from this tower is seen the pedestal of an ancient stone cross, the upper part of which still lies near it on the ground.

In the neighbourhood of the tower are the remains of a building called the Fire House, in which the "inextinguishable fire" was formerly kept by the nuns of St. Brigid, and of which Giraldus Cambrensis gives the following account:—"At Kildare, which the glorious Brigid rendered illustrious, are many miracles worthy of notice; and the first that occurs is 'Brigid's Fire,' called the 'inextinguishable fire;' not that it cannot be put out, but because the nuns and religious women are so careful and diligent in supplying and recruiting it with fuel, that from the time of that virgin it hath remained always unextinguished through so many successive years." It had been well if the matter had stopped here; but Giraldus goes on to say:—"Though so vast a quantity of wood hath in such a length of time been consumed in it, yet the ashes have never increased." It seems also that this fire was never blown by the human breath, lest it should be contaminated; but fans or bellows were employed for the purpose. This fire was put out by the Archbishop of Dublin in the year 1220. What were his reasons does not exactly appear; but Ware says:—"Perhaps the archbishop put out the fire because the custom not being used in other places, it might seem to have taken its original from an imitation of the Vestal Virgins, whom Numa Pompilius first instituted, and dedicated to the holy mysteries of Vesta for the preservation of a perpetual fire. 'He instituted a fire (says Lucius Florus, speaking of Numa) to be preserved by the Vestal Virgins, that a flame, in imitation of the celestial stars, might for ever watch as a guardian over the empire.'" Whatever was the object of this fire, it seems to have been afterwards rekindled and kept burning until the suppression of monasteries in the reign of Henry VIII.

Monument to James Watt, in Westminster Abbey.—In the 26th Number of the 'Penny Magazine' we gave an engraving of the statue, by Mr. Chantrey, to be erected to James Watt, in Westminster Abbey; and we supplied a brief notice of the public meeting in 1824, at which it was resolved that such a tribute should be raised to the memory of one of the great benefactors of the human race. That monument has now been completely opened; it is one of the most beautiful in the Abbey; and is remarkable for the following striking inscription, which is understood to be written by Lord Brougham:—

Not to perpetuate a name
Which must endure while the peaceful arts flourish,
But to show
That mankind have learned to honour those
Who best deserve their gratitude,
The King,
His Ministers, and many of the Nobles
and Commoners of the Realm,
Raised this Monument to
James Watt,
Who, directing the force of an original Genius,
Early exercised in philosophic research,
To the improvement of
The Steam Engine,
Enlarged the resources of his Country,
Increased the power of man,
And rose to an eminent place
Among the most illustrious followers of Science
And the real benefactors of the World.
Born at Greenock MDCCXXXVI.
Died at Heathfield, in Staffordshire, MDCCCXIX.

Treatment of the Gout.—Not more than forty years ago, the gouty had little to hope from medical treatment. Among some, the virtues of patience and flannel had grown into an aphorism, while others sought for aid from the doubtful efficacy of the Bath waters. At length the *Eau Médicinale* was discovered, and all was ease. This celebrated remedy for the gout, like many others which have succeeded it, owes its powers to colchicum, which with the kindred plant veratrum (white hellebore) deserve to be called specifics in this disease. The exultations of the gouty were at first unlimited; it was hoped that a method had been discovered of reconciling health and a gouty habit, and high living; but alas! it was not so; every rose has its thorn, and so has colchicum. One or two attacks of gout may be cured by this potent bulb with impunity; but if the call be repeated too often, colchicum resembles those spirits of Eastern tales who overwhelm their hasty or careless evoker. The paroxysms become more and more frequent, and the sallow and emaciated patient sinks into the grave. Whether this proceeds, as older doctrines might lead one to suppose, from the remedy suppressing the disease too rapidly, and thus preventing the elimination of those noxious humours of which the fit is but the painful expulsion,—or whether it proceeds from a chronic inflammation of the alimentary canal, the poisonous remedy sapping the constitution in its great digestive laboratory, it is difficult to decide. These fatal results have often been produced when patients have taken the management of their cases into their own hands, and, content with present relief, have been unconscious of progressive decay. If common sense were very common,—if the palate and belly had ears,—if physicians were despots, —the gout would be easy of cure, and surplus food might be sent from Grosvenor Square to the surplus population of St. Giles's. But since the facts are otherwise, the gout, combated, but not exterminated, by colchicum, must continue to dwell in gilded chambers, and the poor must console themselves with their perfect immunity from one of the most painful of diseases*. It is clear that gout is a constitutional disease, which it would be vain to attempt to cure by a merely local remedy: the vain attempt has been made, however, and the remedy selected has been veratria, —the alkaloid to which colchicum owes its force. Of course, it must not be applied during the first or acute stage, when the pain is very great, and the parts very red. It is a palliation to local symptoms, but does not attack the disease at its source. On the whole, colchicum is an excellent remedy, though it has no pretensions to the old recommendation of some medicines, "that if they do no good, they can do no harm."

* At a hospital or dispensary, one sees a gouty patient about once in two years, and then he is probably a publican, or very comfortable butler. The last man of the kind we saw had been the coachman of William Pitt.

Why cannot Apes talk?—I have been asked by men of the first education and talent, whether any thing really deficient had been discovered in the organs of voice in the orang-outang to prevent him from speaking? The reader will give me leave to place this matter correctly before him. In speaking, there is first required a certain force of expired air, or an action of the whole muscles of respiration; in the second place, the vocal chords, in the top of the windpipe, must be drawn into accordance by their muscles, else no vibration will take place, and no sound issue; thirdly, the open passages of the throat must be expanded, contracted, or extended by their numerous muscles, in correspondence with the condition of the vocal chords, or glottis; and these must all sympathize before even a simple sound is produced. But to articulate that sound, so that it may become a part of a conventional language, there must be added an action of the pharynx,—of the palate,—of the tongue and lips. The exquisite organization for all this is not visible in the organs of the voice, as they are called:—it is to be found in the nerves which combine all these various parts in one simultaneous act. The meshes of the spider's web, or the cordage of a man-of-war, are few and simple compared with the concealed filaments of nerves which move these parts; and if but one be wanting, or its tone or action disturbed in the slightest degree, everybody knows how a man will stand with his mouth open, twisting his tongue and lips in vain attempts to utter a word. It will now appear that there must be distinct lines of association suited to the organs of voice—different to combine them in the bark of a dog, in the neighing of a horse, or in the shrill whistle of the ape. That there are wide distinctions in the structure of the different classes of animals is most certain; but, independently of those which are apparent, there are secret and minute varieties in the associating chords. The ape, therefore, does not articulate—first, because the organs are not perfect to this end; secondly, because the nerves do not associate these organs in that variety of action which is necessary to speech; and, lastly, were all the exterior apparatus perfect, there is no impulse to that act of speaking.—*Sir C. Bell on the Hand*, Chap. X.

Paper-Making in Tibet.—At a little distance from us, and close to the river, two people are engaged in preparations for making paper. They have two large bags of old paper that has been written upon, and manufactured from the bark of the *Latharna* formerly mentioned. A few large flat stones are placed near the edge of the water, where a portion of the stream has been divided from the main current by a low piece of sods. On the grass are two frames of wood, covered on one side with fine cloth, and the other is open, forming a shallow tray. The workmen begin by dipping some of the old paper in the water, then beating it upon a flat stone with a small round one till it is reduced to a pulp. One of the trays is then placed in the broad part of the canal, leaving a space for the water to run under it. The pulp is put into a geer pump with water, and worked into a paste: it is then poured on the cloth, and as this is sunk two or three inches in the stream, the water rises through the cloth into the tray, and mixing with the pulp dilutes it. The impurities, which swim, are picked out, and the pulp agitated by the hand until it is supposed to be sufficiently clear, when the current of water is lessened. The workman sees if the cloth be equally covered with pulp, and if any part look thin, he stirs the water with his finger immediately over another that is too thickly covered, and raises a cloud of paste which his finger leads to the thin spot, and by making a little eddy, the motion of which he gradually diminishes, the pulp is made to subside. By a repetition of this simple process, the sheet becomes of an equal thickness throughout, when it is carefully raised out of the water, and placed horizontally on the ground to dry, till the greater part of the moisture is drained off, when it is gradually raised; and when nearly dry, the frame is set upright. When perfectly hard, one corner of the large sheet is raised from the cloth, and the whole detached by the hand. However, this paper is very inferior, as to evenness, to that made in Hindustan.—*Journey in Tibet by W. Moorcroft, in Asiatic Researches*, vol. xii., 1818.

THE ORANG-OUTANG.



[The Female Orang-outang at the Surrey Zoological Gardens.]

Our present wood-cut is a portrait of the interesting animal which has lately become an inmate of the Surrey Zoological Gardens: it is shown in an attitude which displays its mode of action in a state of nature. The 68th Number of the 'Penny Magazine' contains a full description of the physical conformation and appearance of the orang-outang, with a particular account of the habits and dispositions of the living specimen which was brought from Java by Dr. Clarke Abel in 1817, and which was, we believe, the first of the peculiar species ever seen in this country: another arrived in 1831, but died in three days; a third was exhibited at the Egyptian Hall, Piccadilly, in the same year; and a fourth was, about two years since, kept in the Tower. These are, to the best of our knowledge, the only living specimens which had been seen in this country previous to the one now under consideration. The difficulty of transmitting them to England, and the short time which they have been here kept alive, arises principally from their great sensibility to the difference between their native climates and those through which they are brought, and to which they come. Our former account of the orang-outang allows us to limit our present statement to the individual in the Surrey Zoological Gardens.

The animal is one of four which were brought in a trading-vessel to Calcutta, where they were purchased and shipped for this country on board the Orontes. Their deportment during the voyage was similar to that of Dr. Abel's specimen. Like it, they were allowed perfect liberty, and were permitted to clamber about the rigging of the vessel and to gambol with the sailors at pleasure. Like it, also, they were keenly sensible of the decrease of the temperature; and the caboose, or kitchen of the ship, formed the shelter which they preferred at night on account of its warmth. Three of them, however, died before the ship reached England; and, notwithstanding the arrangements which have been made in its favour at the Gardens, the survivor appears altogether so uncomfortable, that there is reason to fear that its remaining existence will not be of long duration.

This specimen, technically described as the *Simia Satyrus* of Linnæus, is a female, and is said at the Gardens to be three years of age. It is smaller than the specimen described in the former article, but in other respects it closely corresponds with the description there given. Its height, from the top of the head to the heel, is two feet two inches, and its weight does not exceed fifteen pounds avoirdupois. The fore limb, from the shoulder to the end of the middle finger, measures the extraordinary length of one foot nine inches; and the length of the hand alone, from the wrist to the tip of the middle finger, is six inches and a

half. The palm of the hand measures three inches and a half; the sole of the foot five inches: and the width over the breast is nine inches.

This animal occupies the principal apartment of the neat and comfortable repository No. 8, on the south side of a small circular pond. This repository, which contains several other animals of kindred species, is, like the monkey-house, warmed by a hot-water apparatus, which constitutes the only provision made for the purpose of giving to the whole a temperature more elevated than that of the season. But, in the case of the orang-outang, a special and very judicious provision has been made, though it still seems scarcely adequate to the poor creature's wants. Her apartment is lined throughout with green baize, in addition to which a blanket is hung up behind her bed. The inner half of the floor is a raised platform, also covered with green baize, upon which is a feather-bed similarly covered. There squats the orang-outang, wrapped up in a doubled blanket. The first appearance she presents to the visitor is rather startling. The only visible parts of her person are the face and the hand with which she holds the blanket about her in front. During our visit, she was several times uncovered, and always settled herself again in the same manner;—that is, sitting on the bed in a stooping posture, and the blanket, which is folded double and spread under her upon the bed, so gathered around her as to permit her to have a complete view of all that is going on in front of her cage. Her large, round, black eyes, peering thus with grave and quiet curiosity from amidst the ample folds of the white blanket, present, in the first instance, a somewhat spectral appearance; and then the association of blankets, in fine weather, with a face and eyes somewhat human, suggests to the visiter quite unexpected ideas of humanity in a state of sickness and suffering. The appearance of the orang-outang, indeed, even when uncovered, affords a strong contrast to that of all the other animals in this repository, and particularly with that of her immediate neighbours, the trim and brisk-looking Jacopo the aëronaut, so denominated on account of his repeated ascents in a balloon with Mr. Green, and the grotesque, inquisitive, vigorous and irritable, but withal good-humoured, blue-faced satyr. There was a little kitten in the same cage, but the orang-outang did not appear to take the least notice of it, not even when the keeper put it up close to her face. The keeper himself, however, seems to have already made some way in her regards, for when he offered his hand, she readily stretched forth her own to him from among the folds of the blanket.

It seemed a pity to encroach upon the poor animal's sole remaining comfort and business of life—that of keeping herself warm—for the sake of satisfying our curiosity, or rather to enable us to make this communication to our readers. However, the keeper entered the cage and attempted to draw off the blanket. The animal resisted with great vigour, holding it tightly around her with both hands, and at the same time showing her teeth and screaming—not, as it appeared to us, with rage, but simply in the way of complaint. She did not make the least attempt, by biting or otherwise, to express anger at the keeper's conduct. The blue-faced satyr, after he had received much less provocation, treacherously took an opportunity of pinching the back of the keeper's hand, after he had shaken it in token of reconciliation. This satyr, however, has so much mischievous good-humour about his eyes, that we are quite willing to believe that he intended this pinch only as a joke.

When the keeper succeeded, again and again, in partially uncovering the orang-outang's person, she applied herself with greater vigour and excitement than her grave and quiet appearance seemed to promise, in again pulling it around her, always disposing it in the same manner as before. Once the man took away the blanket altogether, and put her down from the bed upon the platform. Perceiving that the blanket was not upon the bed, she did not at the moment make any attempt to return, but stood perfectly bewildered, looking around in every direction in search of shelter. She seemed on the point of creeping underneath the bed, when the keeper laid out the blanket upon it, and she immediately re-mounted, and with every appearance of intense gratification, drew it over and around her, and resumed her former quiet and contemplative posture. Another time the man again withdrew the blanket, and brought the animal quite forward to the front of the cage. Seeing no other resource, and receiving a slight invitation from the keeper, she immediately hastened to his bosom, and placing her hands upon his shoulders, so extended herself as to bring as much as possible of her own person in contact with his; but no sooner was the blanket restored to its place than, stretching her long arms first to the platform and then to the bed, she made but two strides, as it were, to her favourite position.

She exhibited an indifference to food not usual with her congeners. She did not deign to hold out her hand for some fruit that was offered. At last she accepted a large strawberrry, and held it with great indifference in her fingers for about five minutes: our attention was then diverted for a moment to the satyr; and in the interval the strawberry had disappeared. She also drank some milk, but without much apparent appetite, from a cup which the keeper held to her lips.

These few particulars will be acceptable to such of our readers as have no opportunity of seeing this very interesting animal, which will, we hope, long remain to enhance the value of that important and useful collection to which it belongs.

TENERIFFE.

TENERIFFE is the name of one of the Canary islands, situated on the western coast of Africa. It is in the form of a triangle, each side of which is about thirty-six miles in length, and is computed to contain about 1540 square miles. It consists chiefly of the Great Peak sloping down to the sea, and which, from its singleness and isolation, forms one of the most remarkable volcanic mountains in the world. The island and its peak have been fully investigated and described by Humboldt* and others, from whose accounts we introduce a few statements preliminary to the narrative of an ascent to the summit, with which we have been favoured by a correspondent.

The island of Teneriffe, as well as the other islands of the Canaries, are considered to have been thrown up by the action of a sub-marine volcano; such an origin being indicated by every circumstance in their geological system. This island is divided in the middle by a ridge of mountains, which have been likened to the roof of a church—the peak being the spire in its centre. There is a marked distinction in the aspect which the peak presents from the opposite sides of this ridge. The view of the peak from the port of St. Croix is incomparably less picturesque than that from the port of Orotava on the western coast of Teneriffe. There, a delightful and richly-cultivated plain contrasts admirably with the stern and wild aspect of the volcano. From the groups of palm and banana which fringe the coast to the region of the arbutus, the laurels and the pines, the volcanic rock is covered with the most vigorous vegetation. We may conceive how the people inhabiting even the fine climates of Italy and Greece might believe on the western coast of Teneriffe

* Voyage aux Regions Equinoxales du Nouveau Continent.

that they had found one of the Fortunate Isles. The eastern coast, that of St. Croix, on the contrary, bears altogether a sterile character. The summit of the peak itself is not more arid than the promontory of basaltic lava which extends towards the point of Maga. Five-sixths of the island are composed of rocks, woods, and inaccessible mountains. The peak itself is about 12,000 feet above the level of the sea, and is a very majestic object as seen from the anchorage at St. Croix, notwithstanding the want of picturesque effect on that side of the island. The summit only was visible to Humboldt from thence, the rest of the mountain being enveloped by thick and dark clouds. The cone formed a very brilliant object when illuminated by the first rays of the sun, assuming a brilliant ruddy hue, which, as the sun ascended, changed gradually to a most dazzling white.

The traveller last quoted remarks that in the Cordilleras and Andes it is observed that conical mountains are more frequently free from clouds than those the crest of which is roughened with many small inequalities. But the Peak of Teneriffe, notwithstanding its pyramidal form, is enveloped in clouds for a great part of the year, and one may remain several weeks in the bay of St. Croix without obtaining a view of it. Its position to the west of a great continent, with its isolation in the midst of the sea, are doubtless the causes of this phenomenon.

The crater itself is only 300 feet by 200, and its depth does not exceed 100 feet. This is rather a remarkable circumstance. Vesuvius, which is a mere hillock in comparison with Teneriffe, has a crater of five times this extent. Considering that very elevated volcanoes discharge less matter from their summits than from their lateral fissures, Humboldt sees ground to conclude that when the force and activity of any number of volcanoes are equal, those which are the least elevated will always be found to have the largest craters. The crater of the peak differed in another respect from Vesuvius and most other volcanoes which the same traveller had seen. Their tops preserve a conical form to the very summit; but the Peak of Teneriffe has a very different structure, presenting at its crest a circular wall which environs the crater. At a distance this wall has the appearance of a small cylinder placed upon a truncated cone. The interior of the crater is covered with yellow and white clay, and fragments of decomposed lava, under which are found beautiful octohedral crystals of sulphur. Smoke continually issues from the summit; but it has never been known to emit flames. Sulphuric acid vapours are, however, constantly exhaled from it, issuing from several apertures near the lowest part of the crater. This great chimney in the peak probably operates in exempting Teneriffe from the destructive eruptions by which the neighbouring islands are sometimes convulsed. It doubtless acts in some measure as a safety valve; but it has nevertheless on some occasions proved a dangerous neighbour to the town at the base. In 1704 and 1706 the best harbour in the island was destroyed by lateral eruptions; and in 1798 the adjoining mountain Chahorra ejected lava and scoriæ for three months together. Some of the fragments took from twelve to fifteen seconds to descend, and must, therefore, have been thrown to the height of 3000 feet.

Travellers have been apprized by experience that the summits of very elevated mountains do not afford such picturesque effects and fine views as mountains of inferior height, such as Vesuvius and Puy-de-Dôme afford. Colossal mountains, like Chimborazo and Mont-Rosa, have a mass so considerable, that the plain country, covered with rich vegetation, can only be viewed at so great a distance, that it appears overspread and obscured by a bluish or vapoury tint. But the Peak of Teneriffe, by its slender form and local position, unites the advantages offered by less exalted summits with those which arise from very great elevation. From the summit the spectator not only discovers a vast horizon of sea, elevated above the highest summits of the mountains in the adjacent isles, but he can also view the forests of Teneriffe and the inhabited places in a proximity which affords the finest contrasts of form and colour. The appearance of proximity in which the hamlets, vineyards, and gardens of the coast are seen from the summit of the peak, must, in a great degree, be owing to the astonishing transparency of the atmosphere: for, notwithstanding the great distance, the houses, the sails of vessels, and the trunks of trees are plainly distinguishable, and the rich vegetation of the plains appears in the most lively colours.

The island of Teneriffe enjoys a delightful climate, varying with the elevation from the warmth of the equinoctial regions to the colder climates of Europe. The scenery also is of remarkable beauty. The date-tree, the plantain, the sugar-cane, the olive-tree, and the Indian fig are cultivated. Wheat is reaped from the end of March to the beginning of May; and the bread-fruit tree, and the cinnamon, cocoa, and coffee plants have been successfully cultivated. Above this lowest and most productive region, rises the region of laurels, then the plantation of chestnuts, then the vast forest of pines, then the extensive plain, like a sea of sand, and, lastly, the Malpays, covered with loose fragments of lava. At the extremity of the Malpays is the plain of Rambleta, with the fissures which discharge watery and heated vapours.

The port of St. Croix may be considered as a grand caravanserai situated upon the route to India and America. Most of the accounts of voyages commence with a description of Madeira and Teneriffe. Humboldt mentions that he could not find at St. Croix a single person who had ever ascended the peak, although the enterprise is so frequent among casual visitors. As curious objects are always more interesting to strangers than to those who live among them, there is nothing in this to occasion surprise. We now introduce the account furnished by our correspondent.

"On the 29th of August, 1833, our party, consisting of five Englishmen, three Spaniards, one Portuguese, and two Americans, with a correspondent appendage of cavalry, muleteers, &c., set out from Port Orotava at four o'clock in the morning, in order to avoid as much as possible the intense heat of the sun. The beginning of our journey was delightful. In the course of an hour we had ascended the ridge of mountains that forms the western boundary of the valley of Orotava, the view of which as we rode along was extremely interesting. At first we could scarcely perceive it through the haze of the morning; but when the sun was fairly above the mountains on the opposite side, our situation afforded us a most splendid view of this beautiful valley. We travelled on very pleasantly as far as Las Canadas, and then halted to breakfast, after which, having reloaded our provision-mule, we were again in motion. The remainder of our journey to the foot of the peak was over an extensive sandy plain, and we soon became exceedingly fatigued from the effects of the scorching sun above us, and the oppressive heat reflected from the sand beneath. It took us about three hours to traverse this desert plain; and to keep up the spirits of the muleteers, with the prospect of a good supper, we shot a kid from the flocks, which are here nearly wild. On arriving at the foot of the peak the first day's journey is nearly at an end. An ascent of about five minutes brought us to the Estancia, or resting-place, where we immediately set about pitching our tent, which the violence of the wind rendered a work of some difficulty. The muleteers were sent to collect

fuel, and after a few preparatory arrangements we dined and spent a pleasant afternoon. Some of the party, however, were too much knocked up to partake of the mirth of the others, being very sick from the fatigue of the journey and the sudden change of temperature.

"Towards evening we had a glorious fire blazing, and it was very acceptable; for the cold began to be felt severely, and we sat around it till between nine and ten o'clock. The muleteers, in the mean time, were busily employed in giving a good account of the kid that was shot in the morning. A fashionable cook would have been horror-struck at their method of preparing this repast, though it had great simplicity to recommend it: a leg or shoulder stuck upon a pole was thrust into the fire, and after being a little singed was devoured without any apparent want of relish. About ten o'clock we retired to rest. Our party, with the exception of myself, huddled into the tent where there was only room for three or four to lie down; I very foolishly preferred the outside, for notwithstanding a blazing fire at my feet, and a good cloak and blanket, the cold was so intense that I found it impossible to sleep; neither did the unevenness of the stones on which I was lying contribute much to assist my repose. The rest of the party fared better, for the very circumstance of their being packed in such close quarters ensured a comfortable temperature.

"At about half-past twelve P. M., we were again upon the move, notwithstanding the remonstrances of a young Spaniard and myself (who being the only two of the party who had visited the peak before, knew how much too early it was); but we could not persuade our companions, who were very anxious to be on the top of the peak at sun-rise, which we could have accomplished as well, had we started three hours later. Little did they anticipate the miserable night we were to undergo. Ever since our arrival at the Estancia the wind had been blowing very fresh, and now the higher we ascended the more we felt it. Never did I feel such a piercing blast, and it was so exceedingly tempestuous, that we were obliged to halt at every dozen steps to take breath and imbibe a comparatively warmer air under the lee of some projecting rock.

"Many and long were the pauses made on every occasion of finding a little shelter, though a state of inaction at midnight on the peak without so much as a cloak (for ours were left in the tent to avoid incumbrance) was far from being agreeable. At length, seeing no hope of the tempest abating, we determined to face it as resolutely as we could. We arrived at the Sugar-Loaf at half-past six, having been six hours in performing a distance, which on ordinary occasions is easily accomplished in two. The ground we had passed over from the Estancia to the Sugar-Loaf consisted of a rugged bed of lava.

"The Sugar-Loaf, so called from its shape, is the crown of the peak, and is the most difficult part of the ascent from its nearer approach to the perpendicular, and consisting of loose lava, very much like gravel, which gives way under the feet, and sometimes brings the adventurer down at one step, what it has cost him six or seven to gain. A sulphureous smoke, also, is constantly oozing through the surface in this part, and has a very unpleasant effect upon some stomachs. Perseverance at last brought the whole party to the top: few of them, however, stayed more than a very few moments to indulge their curiosity, not approving of the state of things there. On approaching the summit, the noise made by the wind in the crater put us all on the *qui vive*; there was something so unnatural in it, that it is useless to attempt to describe it, indeed it scarcely admits of a simile. Such was the noise and commotion, that we really felt some scruples as to the prudence of proceeding, not knowing whether we might not expect some sudden eruption. When we did gain the summit, the greatest caution and our best exertions were necessary to maintain our footing: indeed, had we not crouched down behind the rocks and clung to them when exposed to the wind, it is not easy to say what might have happened to us. It was quite impossible to walk about and examine the crater. The superfices consisted of a very brilliant sulphur, which was so excessively hot, that it was out of the question to remain more than a minute or two, without having ones boots burnt.

"Being unable in our situation to see anything more interesting than clouds flying by us at an incredible velocity, we soon rejoined the others who had been induced to descend on the first impression which such an unfavourable view created; indeed we could not have been more unfortunate in selecting a day: for weeks previous the weather had been beautifully calm and clear; but now, instead of the anticipated view of sun-rise, Teneriffe just under us, and the six other Canary islands in the distance, we could scarcely see half a mile around us.

"On returning to the Estancia, we visited the ice-cave, a strange *lusus naturæ*, if I may so term it; at least it seems wonderful that in a bed of lava like that of which this part of the Peak is composed, there should be found the slightest moisture, much more so a spring. The water is distilled very gently through the rocks above the cave, and is, I think, the best and coldest I ever tasted: the greatest part of the surface is frozen. Leaving this, we once more made for the Estancia, before reaching which every bone in my skin ached with fatigue, and my knees quivered as if they would no longer support my body. On our arrival, we were all glad to lie down for an hour.

"By the time we had breakfasted and collected a few specimens of lava, obsidian, and pumice-stone,—had sent on our baggage and mounted our mules,—the sun was nearly at the meridian. We had consequently a very hot ride over the sandy plain, looking anxiously to the clouds beneath us for protection from the intolerable heat. These clouds have a very strange and interesting appearance when viewed from above; the only thing I can compare them to is a sea of wool. When at length, to our great satisfaction, we had descended to the clouds, we dined in the midst of them. Dining in the clouds may seem romantic, but there is nothing particular in it.

"In the evening our whole party arrived in safety at Port Orotava, having acquired, in a few hours, a good practical knowledge, if of nothing else, at least of the effects of excessive heat, cold, and wind.

"On my former excursion I lost all the skin off my face, but on this occasion I was unmanly enough to wear a veil, which saved me very much."

CIDER.

CIDER, which is the fermented juice of apples, is conjectured to have been originally known in Africa, it being noticed by the two African fathers, Tertullian and Augustine, and it was introduced by the Carthaginians into Biscay; where, as well as in other countries uncongenial to the culture of the vine, it has been usefully adopted. It appears that the Normans obtained it from Biscay, and if *cicera* means cider, the mention of it occurs in Hengist's feast in Nennius, which is not improbable, because *cyder* is Anglo-Saxon. It is not known from whence we first received the cultivated apple, though in its wild state it is probably indigenous. In the time of Pliny upwards of twenty varieties were known, and Parkinson, in 1629, enumerates fifty-seven kinds. Gibson says, that Lord Scudamore, ambassador to the court of France in the reign of Charles I., obtained scions of cider-apple trees in Normandy, and

encouraged the grafting of them in Herefordshire, which has since been so celebrated for its cider. Hartlib, in 1650, believes that there were 500 sorts in this country.

The fruit-catalogue of the London Horticultural Society of 1831 contains the names of 1400 varieties of apple, and it does not include many of the names known in the west of England, though perhaps some of them may be synonyms. Apple-trees were anciently sprinkled with a libation of cider and toast on Christmas Day or Twelfth Eve, and this, which was probably a remain of the sacrifice to Pomona, was considered conducive to the production of an abundant crop; and on St. James's day (July 25), the apples were blessed by the priest. The apples used for cider in the west of England are, among others, the Longney Russet—the Exel—the Duke—the Ansell—the Styre—the Redstreak—the Golden Harvey—the Devonshire Wilding, &c., &c., of which the Styre and some others are becoming extinct; but their loss is supplied by new apples of equal excellence. Generally speaking, those apples that are considerably astringent, and are unfit for the table or culinary purposes, make the best cider; while the Ashmead Pippin, which is sweet, and perhaps one of the best table-apples that we have, is not at all adapted for cider. Different apples are sometimes advantageously used together for the production of cider, and almost every cider-maker has some favourite sort, and some peculiarity in the manufacture. Mr. Knight has ascertained that the specific gravity of the juice of any apple recently expressed denotes with very considerable certainty the strength of the future cider; and, according to Mr. Brande's table, the highest average of spirit or alcohol per cent. in cider is 9·87.

The process of cider-making in the West of England is to have the apple-trees gently shaken at two or three different times, that only the ripest fruit may fall; the apples are then laid in heaps, which, if circumstances permit, should be under cover, with a free admission of air. They are suffered to remain ten days or a fortnight, and some kinds even longer; and the good cider-maker takes care that the decayed apples and other impurities may be removed before they are taken to the cider-mill, where they are crushed by a large circular stone which is turned by a horse. When the apples are completely mashed, the must, as the crushed apples are then called, is placed in large square pieces of hair-cloth, each hair-cloth being folded over so that nothing but the juice can escape when they are put under the screw-press to which they are removed, and where they remain till the juice is all expressed. The juice is received into a large tub, from which it is conveyed to the casks. Those who do not rack the cider (about which there is a difference of opinion) cover the bung-hole of the cask with a tile, and let it stay till March or April, when to every cask of 100 gallons is put half a pound of hops, and a little colouring made of burnt sugar, and the cider is then stopped close, and is fit for drinking at the end of the year. It is doubtful whether the hops improve the cider, but they probably make it keep better: this method makes the strong cider, which is the principal beverage used in the cider countries; that consumed in London being prepared and sweetened by persons who purchase the cider from the maker.

In Devonshire the cider is racked (which is, drawing the clear cider from the dregs, and putting it into clean casks) as often as the fermentation comes on, a brimstone-match being burnt in each cask before the cider is put into it: this management preserves the sweetness, but in an equal proportion diminishes the strength. Seven or eight sacks of apples will afford about a hundred gallons of cider, the expense of making which does not exceed 10*s.* A cider-mill has been lately constructed in Gloucestershire, which is much superior to the old mill; it is driven by water, and makes from 300 to 400 gallons a-day. In this mill the apples are placed in a large box, with an aperture in the bottom, which drops the apples between two iron rollers; these break them in pieces, after which they fall between two stone rollers set so close to each other as to crush the kernels of the apples, which is essential to the flavour of the cider. The must is in this mill received into a large tub beneath the rollers, and from thence put into the press.

Adulteration of Oils.—Olive-oil designed for the table is often adulterated with the oil of the poppy, and that which is used in the arts by the addition of rape-oil. Rousseau has proposed a method of detecting these adulterations, founded on this, that the conducting power of olive-oil for electricity is 675 times less than that of any other vegetable-oil. He employs for this purpose a galvanic pile, one of whose poles communicates with the earth, while a wire connected with the other is brought near a feebly-magnetized and freely-suspended needle. The purity or impurity of the oil is known by the degree in which the declination of the needle is diminished on applying a drop of it to this wire. Two drops of oil of poppies are sufficient to quadruple the conducting power of three drams of olive-oil. It is known that the conducting power of water depends on the salts which it holds in solution; may not the same thing be the case with the oils?—May they not owe their conducting power to the quantity or the kind of salts which they contain?—*Raspail's Chimie Organique*, translated by Henderson, § 1066.

Caffre Fair—The following account of the mode of barter as pursued at a Caffre Fair, held at Fort Wiltshire, about forty-five miles from Graham's Town, Cape of Good Hope, is extracted from Lieutenant Holman's 'Travels,' who gives it from the 'South African Advertiser.' "At eleven o'clock on Wednesday morning a flag is hoisted from the Fort, and almost immediately after, straggling groups of Caffres may be seen advancing from the mountain tops, the women bearing on their heads the merchandise for the fair, consisting of hides, horns, mats, milk, and green forage, and accompanied by their husbands. On arriving at the market, the hides are ranged in front, the horns immediately behind them, then the mats, milk, and green forage. The average number of hides appears to be about 800, and from 1000 to 2000 horns. A small space is left between the property of each Caffre, and thus a very long front line is extended. Mats may be obtained in any number by bespeaking them. In exchange for these articles, the Caffre trader offers beads, buttons, brass wire, and common handkerchiefs. Each trader is attended by a soldier from the Fort, and four or five Caffre servants, who visit the fair for this purpose, and are paid by the trader. The business of the soldier is to prevent pilfering, and preserve order: in case of dispute, which seldom arises, the matter is referred to the commandant of the Fort, whose decision is final. The number of licensed traders is from eighteen to twenty; and by a private arrangement among themselves, the barter commences at two o'clock, the hour being made known by sound of trumpet from the Fort: at this moment all is bustle, and the rapidity of the exchange of property is truly astonishing. The horns are first disposed of; then a pause is observed for a quarter of an hour, when the trumpet sounds again, and the barter for the hides commences with, if possible, increased alacrity. Whatever a trader is disposed to offer for a hide he places on it, and if the Caffre woman does not approve of it, he perhaps adds another button or a bit of wire, and when she deems the compensation adequate, she takes it up: this is the signal for the trader's servant, who immediately snatches away the hide, and runs a rope through a hole that is formed in it by pegging it down to dry, and then proceeds to the next hide. In this manner all the hides and horns are purchased in the course of an hour. The mats, milk, and forage, not being considered such staple articles, are generally disposed of before the first trumpet sounds, and in one hour and a half the whole business of the fair is completed. The fair is held immediately in front of the barracks."

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VALLEY OF MERAN.—IN THE TYROL.



[Valley of Meran. Vine Trellis over the Road. Tyrolean Peasants.]

This valley, through which the rapid river Adige descends, is celebrated by all travellers in the Tyrol, as presenting some of the most picturesque and romantic of scenes. It is the principal of the lateral valleys of the country; but being little frequented by strangers, it is as delightful for the primitiveness of manners and appearance of its inhabitants, as it is for the beauty of its scenery and the number of its castles and towers which crown almost every insulated eminence. On entering this valley on the Italian side, and going by Botzen, or Bolsano, the tourist has to find his way through a perfect labyrinth of streams formed by the Adige which divides itself into many separate channels, and not unfrequently overflows them all. But about four miles above Botzen the ground rises, the valley improves, and near to the old straggling town of Meran it puts on all its beauty. At that point it seems to terminate, for the mountains, closing in on all sides, leave no visible passage for either the river or the road. A sudden turn, however, opens both, and the traveller goes on through a luxuriant and highly-cultivated country, until the encircling mountains again close in, and puzzle him as to how his future route can lie. Near to the town of Meran the arrow-like Passeyer falls into the Adige, and some twelve miles up the valley of the Passeyer stands the simple but much-honoured house of the patriot Hofer. Villages, hamlets, cottages, and mills, are thickly scattered through nearly the whole of the Meran district, and pure, sparkling rivulets, in some beautiful places forming cascades, and everywhere imparting verdure and coolness, tumble from the mountains and the hills to join the roaring Adige.

These numerous rivulets and brooks form a distinguishing character in the scenery, and the Tyrolean peasants, who have great mechanical ingenuity, avail themselves of them for a variety of purposes, besides those of irrigation, uniting and conducting their narrow threads into one good water-course, which may drive a sawing-mill, or a flour-mill, or otherwise economize labour, by a cheap and never-failing water-power.

Mr. Röhrer, a German traveller, who wrote an account of the Tyrol about forty years ago, says that on going one day into a peasant's cottage he saw nobody there but a child in a cradle, and that to his great surprise the cradle kept rocking just as if the mother or some other member of the family were there to rock it. In seeking for the cause of this regular and constant movement, he found that a cord was fastened to the cradle,—that this cord went through a hole in the wall of the cottage, and was carried to a shaft which was set in motion by a wheel that was turned by a little streamlet.

Another distinguishing feature in the scenery of the valley of Meran arises out of the singularly-picturesque manner in which the peasants arrange their vines, carrying them on trellices over the high road, as represented in our engraving, and at times continuing this most refreshing and poetical canopy of fruit and leaves for very considerable distances. Mr. Inglis says, that on leaving the town of Meran, a great part of the road lay under a lovely vine-bower of this kind, the plants being trained overhead, and only here and there admitting glimpses of the blue sky. The Count de Bray, a French gentleman, who informs us that he made six tours in the Tyrol, and each tour with an increase of enjoyment, compares these shady, close avenues to tunnels, and adds, (what will readily be believed) that nothing can well be pleasanter than travelling through them during the glare and heat of summer. Near the villages, they are always kept very neatly; and here, after the toils of the day, the old repose, and the young people take their evening walk.

In the most romantic part of the valley, about three miles above the town of Meran, there is a rugged, singularly-shaped grey rock, which is crowned by the ruins of an old castle—the far-famed castle of Tyrol (*Teriolis*), from which, curiously enough, the whole country is said to have derived its name. This is an object of great veneration to the peasants, who never approach it but with uncovered heads,—who consider it as the palladium of their nationality and independence,—and who regard its desecration by the French and Bavarians, during the last war, as one of the most intolerable of the evils of foreign conquest. When the country was ceded to them, the Bavarians, after partially razing its walls, sold the old castle to a peasant for 2000 florins (about 190*l*.); but in 1814, the people of Meran bought it, and made a present of it to their restored sovereign, the Emperor of Austria, to whose remote ancestors it belonged. It is now a curious mixture of old and new buildings, having little that is warlike in its appearance, but being decorated from donjon-keep to sally-port with beautiful cherry-trees, that grow up among its grey walls. Around it are dark wooded mountains, rocks, ravines, and thundering cataracts.

Still ascending the valley of Meran, fields of the broad-leafed vividly-green Indian corn are found to give place to fields of barley, and these, in their turn, are succeeded by open pasture-land. The traveller then finds himself in a truly pastoral and primitive country where the rocks continually echo with the lowing of herds and the bleating of flocks, mingled with the sound of running waters.

M. de Bray was particularly struck with the familiarity and amiability of the cattle. In these elevated, salubrious regions there are no gad-flies or other tormenting insects, the passers by are few, and almost invariably shepherds, who always carry about them a little salt, or a species of powder composed of dried aromatic herbs, of which the cows are very fond. Accordingly as soon as they see a human being they gently approach him, expecting a little regale or present, and will put their fragrant lips to his pocket or into his hand to seek for it.

Every year these shepherds of the Tyrol send a part of their family on a migratory expedition, which is chiefly directed into Suabia, where they find employment in tending sheep and cattle. Troops of boys are placed under the guidance of steady old men, each troop having one Nestor who leads them the right road, and takes care of their interest and conduct. Every boy carries a pastoral pipe and a knapsack, with a small provision of oaten bread, and they generally cross their mountains in large companies. During the summer months they live scattered over the wide pasture-lands of Suabia, and in spite of solitude and the coarsest nourishment, they are said to be very cheerful and always honest. Towards the end of autumn the same old men conduct them back to their huts in the mountains of the Tyrol, and happy is the boy who can carry with him some ten or twelve shillings as the savings out of his summer gains. Some of these humble laborious individuals have shown great intelligence, and even genius. Peter Anick, who was a common shepherd, made himself a first-rate geographer, and constructed a globe of extraordinary perfection, which is carefully preserved in Innspruck Castle. Peter also drew up a map of the Tyrol, which is said to be the best as yet in existence.

All through the valley of Meran, in addition to the many beautiful species which grow wild, flowers are diligently cultivated, and most of the peasants' houses have pots or boxes of blooming pinks and carnations on their window-soles. At the upper part of this lovely valley, the river Adige presents a magnificent spectacle, running for nearly a mile over a shelving series of rocks as a cataract, or at least as a glorious rapid. Some travellers say that these falls are far superior to the celebrated falls of Schaffhausen, and that there is nothing of the sort in Switzerland that can stand a comparison with them. Quiet, green, pastoral banks fringe on either side this fearful torrent and vast sheet of foam.

BUTTER.

ITALIAN, *butirro;* Spanish, *manteca;* Portuguese, *manteiga;* German, *butter;* French, *beurre;* Greek, *βουτυρον:* the similarity of this word in the language of different nations would seem to indicate one common source of derivation. Butter, which is prepared by the long-continued agitation of milk or cream, which is called churning, is mentioned in several places in the Bible; and though the passages "Surely the churning of milk bringeth forth butter" (Prov. XXX. 33), and "The words of his mouth were smoother than butter" (Psalms lv. 21, Bible Translation), appear to remove all doubt, it is by many supposed that the butter of Scripture is milk, cream, or even cheese; and that we first read of butter, properly so called, in Herodotus. It appears that the use of it was made known to the Greeks by the Scythians, Thracians, and Phrygians. The Romans, who adopted it as an unguent or medicine to anoint the bodies of their children, learnt the invention from the Germans; but neither Greeks nor Romans applied it to the art of cookery. The ancient butter was apparently much more fluid than that at present in daily use, probably resembling the ghee of the East Indies. It was used by the ancient Burgundians to besmear their hair; and the early Christians

burnt it in their lamps. Pliny says that butter was the favourite food of the barbarous nations, and that it distinguished the rich from the poor. A great deal was made of cows' milk, and it was also made of the milk of goats and ewes, that of the latter being the fattest. The milk was warmed in the winter, while in the summer it was made by frequent agitations in long vessels (churns), a little water being added to produce acidity. The butter of the Moors of the empire of Morocco is made of all milk, as it comes from the cow, by putting it into a skin and shaking it till the butter separates from it; and a similar practice was observed by Hasselquist in an encampment of Arabs near Tiberias. The distinction of fresh butter is not modern, it being styled, in the middle ages, *Phrysicum butyrum.* The preparation of butter descended from the Britons to the Welsh and Irish; and the inhabitants of Cheshire, as neighbours of the north Welsh, were remarkably fond of it. Holinshed says of the ancient Irish, "oatmeale and butter they cram together, they drink wheiemilke and beefe-broth;—they let their cows blood, which, growne to a gellie, they bake, and overspread with butter, and so eat it in lumps:" and the Scots were hardly more delicate, for "they brought furthermore from their houses to the field with them a vessell full of butter, cheese, meale, milke and vinegar, tempered together, as a shoote-anchor against extreme hunger, on which they would feed and sucke out the moisture when other provisions could not be gotten." Bread-and-butter superseded the use of "kychir grosse," or dripping for breakfast, between the reigns of Edward IV. and Elizabeth; and in the reign of this queen, by the laws of coursing, greyhounds were fed in the morning with a toast and butter, or oil.

The present method of making butter usually is, in the morning, to place the milk in shallow vessels, presenting a good deal of surface, and in the evening the cream is skimmed, the evening's new milk being added to that already skimmed; and the same process is observed night and morning till the day of churning, which is either once or twice a week, according to the temperature. The cream must be placed in clean pans every other morning. The churn, previous to its being used, is rinsed with cold water in summer and warm in the winter; and the cream having been strained into the churn, it should be turned slowly in warm weather and rapidly in cold; and, when the churn has been turned two or three times, it is necessary to open the aperture or door that the air may escape, after which it should be firmly reclosed. The churn is then worked till the butter is formed, which it will be in the summer in an hour, and in the winter in two hours, or perhaps not quite so soon. When the churning is completed, the buttermilk is let out at a cork-hole, and the butter is put into a butter-trundle, which is a species of tub; and after it has been washed in water, changed two or three times, it must be drained, worked with the hand, and salted. In Gloucestershire, and some other counties, it is weighed in half pounds, and impressed with various patterns, and it is then placed in water in warm weather, and on boards if it is cold. The print which forms the impression is made of ash, and is four inches in diameter; and if it bears what is called the Gloucester print, which is a number of small knots, the butter sells for a penny a pound more.

The process of making whey-butter is similar to that already stated, but the cream that arises, or whey, ought not to be kept more than thirty-six hours. Pigs are fed with the skimmed whey and also with the buttermilk. The butter produced from a good cow is about 100 lbs. in a year, but the quantity varies very much in different animals and different pastures, and the butter is frequently found to retain the taste of garlic and other plants on which the cows have fed. It is in all cases particularly essential to the making of good butter that all the dairy-utensils should be perfectly clean. With respect to the prices of butter, it appears by the household-book of Lord North that a pound of butter in the reign of Queen Elizabeth cost fourpence: at the present time (the summer of 1835), a pound of the best butter in the west of England costs from sevenpence to eightpence, while in the metropolis the price is fourteenpence.

A large portion of the butter consumed in London is in rolls without any impression. Dutch and Irish butter is also imported in considerable quantities, but the flavour and quality are not considered equal to the butter of this country; and the Dutch butter often abounds with hairs and other impurities. The firkin of butter contains fifty-six pounds.

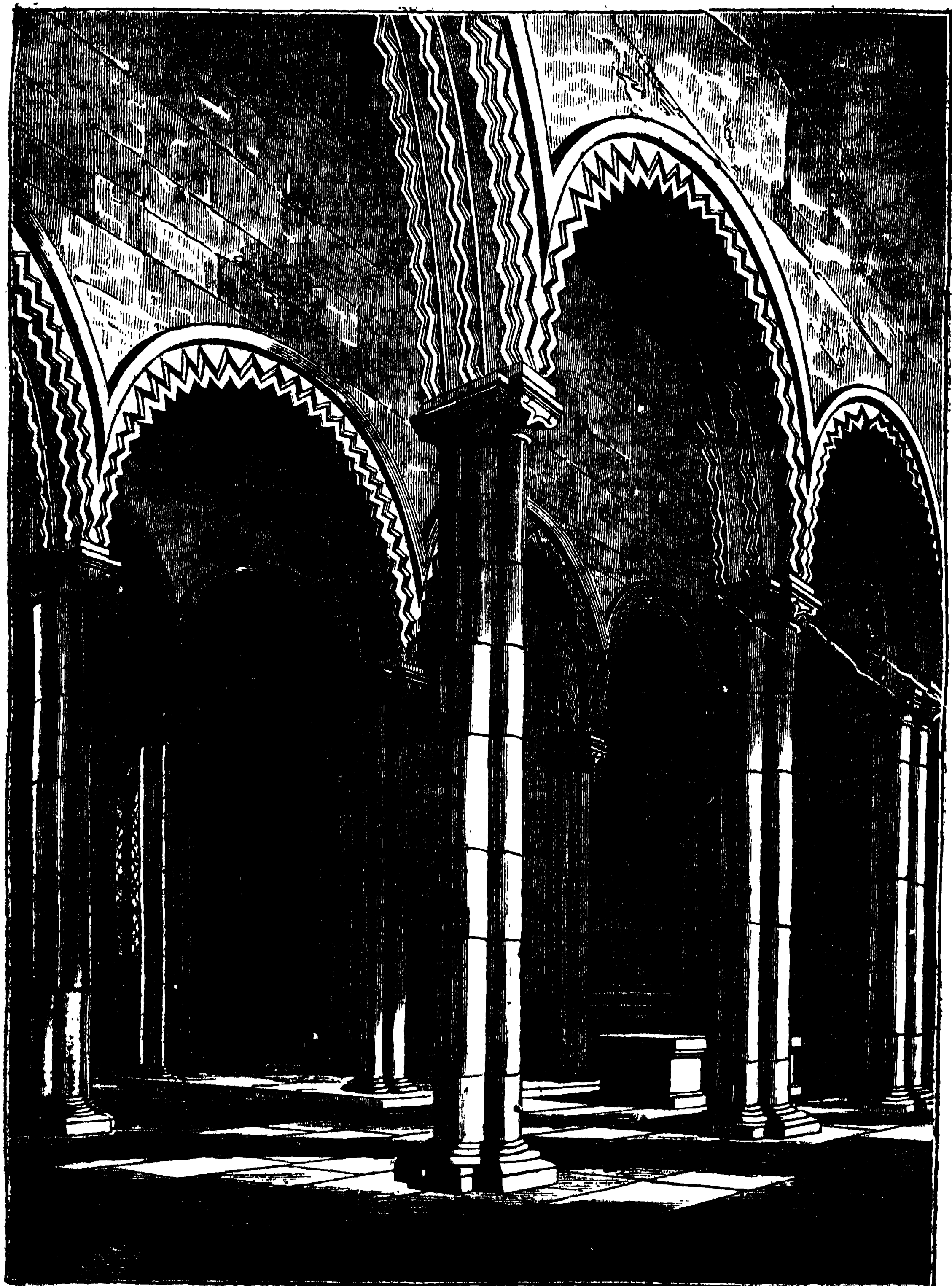
Salted butter is prepared by working the moisture out of the butter and adding salt, after which it is closely pressed into the vessel, in which it is to remain till it is taken out for use.

Curious Fashion and Anecdote.—In 1612, (10 James I.,) Mr. Edward Hawley of Grey's Inn, coming to court one day, Maxwell [a Scots man] led him out of the room by a black string which he wore in his ear, a fashion then much in use. But this had like to have cost warm blood. Not only Grey's-Inn Society, but all the gentry in London thought themselves concerned in the affront; and Hawley threatened to kill Maxwell wherever he met him, if he refused to fight, which so frighted the king that he sent for the benchers, and made up the quarrel.—*Tindal's Notes upon Rapin: from Osborn.*

Goats as Wet-nurses.—It is ordinary, all about where I live, to see the countrywomen, when they want suck of their own, to call goats to their assistance. And I have, at this hour, two footmen that never sucked woman's milk more than eight days after they were born. These goats are immediately taught to come to suckle the little children, well knowing their voices when they cry, and come running to them; when, if any other than that they are acquainted with be presented to them, they refuse to let it suck, and the child, to any other goat, will do the same. I saw one the other day, from whom they had taken away the goat that used to nourish it (by reason the father had only borrowed it of a neighbour) that would not touch any other they could bring, and doubtless died of hunger.—*Montaigne's Essays: Cotton's Translation,* 1711.

Expediency of measuring distances from a Common Centre in London.—The Roman roads in Britain were all from London Stone, still extant in Cannon Street. No defect in our improved modern metropolis is more inconvenient than the want of such a stone, the various roads from London being now measured from ten or eleven different places, two, three, and even four miles distant from each other. The catalogue is curious: Hyde Park Corner and Whitechapel Church; the Surrey side of London Bridge and of Westminster Bridge; Shoreditch Church; Tyburn Turnpike; Holborn Bars (long since removed); "the place where St. Giles's Pound formerly stood;" "the place where Hicks's Hall formerly stood;" "the Standard in Cornhill" (of which no tradition remains, its exact site being unknown); and "the Stones' End in the Borough," which moves with the extension of the pavement. Thus the actual distance of any place cannot be known without minute inquiry and local knowledge of London. The easy remedy consists in adopting the mileage of the Post Office, when it shall have been re-measured from the new site of that office, the frontage of which grand centre of communication could not be more appropriately adorned than by an obelisk which would become a London Stone, inscribed with the names and distances of large provincial towns, in imitation of that which stood in the Forum of antient Rome. The vicinity of St. Paul's Cathedral, the most conspicuous object in London, recommends the New Post Office especially for this purpose; and turnpike road trustees would not refuse to accommodate to it their milestones, under the direction of the road-surveyor of the Post-Office.—*Appendix* B. *to Parish Register Abstract for* 1831.

GALILEE OF DURHAM CATHEDRAL, AND TOMB OF VENERABLE BEDE.



[Bede's Tomb, Galilee, Durham.]

A general account of Durham Cathedral having been already furnished in No. 73 of the 'Penny Magazine,' we are now enabled to give a more detailed attention to that part of it called the "Galilee," and to the tomb of the Venerable Bede, whose remains are deposited there. As an account of that great ornament of the eighth century has lately appeared in the 'Penny Cyclopædia,' the present article will be particularly satisfactory to such of our readers as are subscribers to that publication, while nothing that relates to a man whose name is so familiar can be at any time uninteresting.

There is some difference of opinion as to the cause of the application of the name of Galilee to the western porch, raised directly under the west window of a cathedral or other great church, and which is still retained for the western porches of Durham and Ely cathedrals. Gervase, as quoted by Dr. Milner, if he does not enable us to trace the origin of the name, at least shows one of its common uses in this application. It seems that the western porch was the place in which females were allowed to see the monks who were their relatives. A woman applying to see a monk, her relation, was answered in the language of Scripture: "He goeth

before you into Galilee, there you shall see him." The curious account of the origin of the Durham Galilee applies this information with peculiar point to that erection. St. Cuthbert, to whom the cathedral of Durham was dedicated, conceived a mortal aversion to women, in consequence of having unjustly been accused of an illicit intercourse with a daughter of the King of the Picts. The lady herself accused him with the view of averting suspicion from the real offender; but the innocence of the saint is said to have been manifested by a miracle, and he granted his pardon to the culprit on condition that no woman should ever after be allowed to come near him. In consequence of this no woman was, in after time, allowed to enter a church dedicated to St. Cuthbert. That this regulation was rigidly enforced at Durham appears from the following anecdotes:—

In the year 1333, on Thursday in Easter week, Edward III. came to Durham and lodged in the Priory. On the Wednesday following Queen Philippa came from Knaresborough in one day to meet him, and, being unacquainted with the customs of the church, went through the Abbey-gates to the Priory; and, after supping with the king, retired to rest. The monks were very much alarmed at this, and one of them went to the king and informed him that St. Cuthbert could not endure the presence of a woman. Unwilling to give offence to the church, Edward immediately ordered the queen to get out of bed; and she—in her under garments only, her mantle, &c. being buried—then returned by the gate through which she had entered, and went to the castle, devoutly praying that St. Cuthbert would not avenge an offence which she had committed through ignorance.

Again, in the year 1477, two women of Newcastle being determined to approach the shrine of the saint nearer than was legally permitted, disguised themselves in men's apparel, but were discovered in the attempt to complete their purpose, and taken into custody. By way of punishment for their intended profanation, they were adjudged to walk on three festival days before the procession in St. Nicholas's church, Newcastle, and on three other holidays at the church of All Saints, in the same town, habited in the dresses in which they committed the offence, proclamation being first made as to the cause of this penance. The master and mistress of these curious females were at the same time ordered to attend the spiritual court at Durham, to answer the charge of being counsellors and abettors in this misdemeanour.

The following is described as the origin of the Galilee of Durham Cathedral. When Bishop Hugh Pudsey was promoted to the see of Durham, in 1154, he was inclined to think that his predecessors had paid too exclusive an attention to the honour of St. Cuthbert in the erection of the cathedral which had only recently been finished. He therefore proposed to erect, at the *east* end of the cathedral, a chapel in honour of the Virgin Mary, into which it should be lawful for women to enter, there being then, as we are informed, "no holy place where they might have admittance for their comfort and consolation." To carry this benevolent purpose into effect, the bishop procured several pillars of marble to be brought from beyond sea, and the work was commenced; but they had not been advanced far before great clefts appeared in them, and some parts began to fall down. This was considered a manifest indication that the patron saint disapproved of having a chapel for women erected in such proximity to his shrine, and therefore the bishop discontinued his works in that quarter and re-commenced them on the opposite or western side of the cathedral, where he was allowed to complete the Galilee without further disturbance. It was originally built in the Saxon style, but, about the year 1406, was repaired in the pointed-arch manner by Bishop Langley. The blending together of these two species of architecture has, in this instance, a very happy and picturesque effect. This effect, however, does not merely result from this combination, but is partly a consequence of the plan of this interesting chapel. It is divided into five aisles by four rows of light clustered columns. Each of these columns is composed of four shafts. The eastern and western shafts are built of several courses of stone, but the northern and southern are each of a single piece of a sort of coarse marble. The arches which they support are semicircular, and adorned with zigzag moulding. "The light and shade in this chapel," says Sir Henry Englefield, "particularly when illuminated by a low western sun, is exquisitely beautiful, as there are no windows in any upper story to disturb the effect. The four ranges of columns give a richness and intricacy to this building which is to be found in no other in this country." The original entrance was on the north, from a small yard adjoining the churchyard; but it is now entered from the side-aisles of the cathedral.

At the east ends of the three centre isles there were formerly three altars; that most to the north was Our Lady of Pity's altar; the next, being the central one, was Our Lady's altar, immediately before the steps of which is the tomb of Cardinal Langley, by whom the Galilee was repaired, as already mentioned. The other altar was that of St. Bede, before which is the tomb, as seen in our wood-cut, on which the shrine of that venerable person stood previously to the Reformation.

It seems that Bede died in the monastery at Jarrow, and was buried there; but afterwards his remains were removed to the church of Durham, and rested there, in a gold coffin, on the right side of St. Cuthbert's body, according to some accounts, but in the same coffin with the latter saint according to others. After the completion of the Galilee, the remains were transferred thither, and honoured with a separate shrine. This removal, however, did not immediately take place, as appears from one of the Latin inscriptions, of which the following is the English:—"In the year of our Lord 1370, Richard of Barnard Castle did with eagerness procure that the bones of St. Bede, lying nigh to St. Cuthbert's shrine, should be translated into this Galilee, there to remain. This Richard, deceased, for the love he had for St. Bede, ordered his own bones to be laid near him." From another inscription, however, it appears that the shrine was prepared by the founder of the chapel, although the body was not removed to it until a much later date. The following account of the shrine as it stood previously to the Reformation is from a book published in 1672, under the title of 'The Ancient Rites and Monuments of the Monastical and Cathedral-church of Durham, collected out of Ancient Manuscripts, about the time of the Suppressions.' This book, which has several times been republished under various titles, says:—"There was on the south side, between two pillars, a beautiful monument of blue marble, a yard high, supported by five pillars, one at every corner, and the fifth under the middle; and above the said marble-stone and pillars stood a shrine, second to St. Cuthbert's, wherein the bones of that holy man, St. Bede, were enshrined. It used to be taken down every festival-day, when there was any solemn procession, and carried by four monks in time of procession and divine service; which being ended, they conveyed it again into the Galilee and set it upon the said tomb, which had a cover of wainscot, curiously gilt, and made to draw up and down over the shrine, when they pleased to show the sumptuousness thereof."

The same account says, in another place, that "there were two stones that belonged to St. Bede's shrine in the Galilee. The uppermost stone had three holes in each corner, for irons to be fastened in to guide the covering when it was drawn up or let down. The other

was a plain marble-stone, which was lowest, and laid above a little marble-tomb, whereon the bottoms of the five small pillars stood to support the uppermost stone." At the suppression of monasteries, the shrine was defaced, the bones of Bede were taken down and interred "under the same place where before his body was exalted;" the larger marbles were removed into the body of the church, and only the "little marble-tomb," which served as the basis of the shrine, was left remaining in the Galilee.

THE GREAT EAGLE.

WE lately presented the readers of the 'Penny Magazine' with an account of the great eagle, accompanied by an engraving of its nest. The following additional particulars mostly refer to the same bird, and describe chiefly the mode in which it deals with its prey.

The great strength of the eagle lies chiefly in its beak, talons, and wings, and there is scarcely any animal that is a match for it. A single stroke of an eagle's wing has been known to strike a man dead on the spot. All the proper eagles dislike carrion, in which they are distinguished from the vultures. They like no prey but that which they take for themselves, and they devour it while fresh. They usually carry their prey entire to their eyrie and there devour it. They are capable of carrying animals nearly as heavy as themselves to a great distance,—sometimes as much as forty miles. But, when they have killed a calf or deer, they satiate themselves upon the spot, and carry away choice pieces only to their young. The different species vary in their food. Some pounce on fish, others confine themselves to reptiles and insects, while some prey on the smaller quadrupeds and birds. According to Spallanzani, eagles have a decided aversion to bread, and refuse to eat it even after long fasting. Nevertheless, when forced into their stomach, it is digested like any other aliment. It is said that they never drink water, and it is certain that they can dispense with it for a great length of time. Yet, when it is presented to them, they plunge and bathe in it, and even drink it like other birds.

The great eagle is very destructive to lambs, young deer, kids, hares, poultry, &c. Low, in his 'Fauna Orcadensis,' says, that they do not abstain from pork in the Orkneys, but occasionally seize both old and young swine. A clergyman told him that he had seen one, mounted in the air, with a pretty large pig in her talons, which she let fall alive when he fired at her. Martin, in his 'Description of the Western Islands of Scotland,' published in 1716, speaking of this bird, says:—"The eagles are very destructive to the fawns and lambs. The natives observe that it fixes its talons between the deer's horns, and beats its wings constantly about its eyes, which puts the deer to run continually till it falls into a ditch or over a precipice, where it dies, and so becomes a prey to this cunning hunter. There are at the same time several other eagles of this kind, which fly on both sides of the deer, which fright it exceedingly, and contribute much to its more sudden destruction."

We rather doubt the latter portion of this statement, which describes several eagles as uniting their exertions against the deer; as we do not remember to have met with any other instance of more than a single pair hunting together. The eagle never engages in a perfectly solitary chace, except when the female is confined to her eggs or her young. At that season the proper prey of these eagles is generally so abundant that the male is able to provide for his own wants and those of the family without the assistance of the female. At other times they unite their exertions, and are always seen either together or only at a short distance from each other. It is said that the one beats the bushes while the other, perched on an eminence, watches the escape of the prey.

Pennant adds his authority to the former part of Martin's statement, and says that the eagles in the island of Rum have nearly extirpated the deer that used to abound there. He also states that eagles seem to give a preference to the carcases of cats and dogs. "Persons who make it their business to kill these birds lay that of one or other by way of bait, and then conceal themselves within gun-shot. They fire the instant the eagle alights, for she that moment looks about before she begins to prey."

Martin, in the work just quoted, relates the following anecdote; and one very similar is also related by Sir Robert Sibbald. "There's a couple of large eagles who have their nest on the north end of the isle [St. Kilda]. The inhabitants told me that they commonly make their purchase in the adjacent isles and continent, and never take so much as a lamb or hen from the place of their abode, where they propagate their kind. I forgot to mention a singular providence that happened to a native of the isle of Skie, called Neil, who, when an infant, was left by his mother in the field, not far from the houses on the north side of Loch-Portrie; an eagle came in the mean time and carried him away in its talons as far as the south side of the loch, and there laid him on the ground. Some people that were herding sheep there perceived it, and hearing the infant cry, ran immediately to its rescue; and by good providence found him untouched by the eagle, and carried him home to his mother. He is still living in that parish, and by reason of this accident is distinguished among his neighbours by the sirname of Eagle.*" Ray mentions an instance of a child a year old being seized by an eagle in one of the Orkneys and carried to the eyry, about four miles distant. But the mother, who was aware of its situation, pursued the bird thither, found her child in the nest, and took it home unhurt. It is not improbable that some similar circumstance gave rise to the impression of an eagle and child on the coin of the Isle of Man.

Other parents have been less fortunate in rescuing their children from the power of the eagle. The following instance is from Landt's 'Description of the Feroe Islands:'—"The white-tailed eagle built its nest formerly on Tintholm, where some ruins of houses still show that a family once resided. The eagle one day darted down on a young child, which was lying at a little distance from its mother, and carried it to its nest. The mother hastened to the rock where the nest was constructed, and which is so steep towards the summit that the most experienced and boldest bird-catchers have never ventured to climb up it; but the poor woman arrived too late, for the child was already dead, and its eyes torn out." Another instance occurred in the parish of Norderhougs in Norway, in 1737. As a boy, upwards of two years of age, was running from the house to his parents, who were at work in the fields at no great distance, an eagle pounced upon him and carried him off in their sight, in spite of the poor little fellow's screams and efforts. It is even stated by Anderson, in his 'History of Iceland,' that the same unhappy fate has occasionally in that island befallen children of four or five years of age.

We give no opinion as to the truth of these statements: but it is right to consider that the great eagle certainly does assail animals more vigorous and bulky than a little child; and when, therefore, there is any good evidence, we see no reason for being incredulous in this matter.

In consequence of their rapacious habits, and the

* Low mentions in another place that all eagles are called "earnes" in the Orkneys.

injury which they did to the inhabitants by destroying their cattle, they were formerly proscribed in Orkney. In the old acts of the country is found the following, which we quote as given in Low's 'Fauna Orcadensis:'—"Anent slaying of the earne *. Apud Kirkwal, decimo die Decembris, anno 1625. The qlk day it is statute and ordained be Thomas Buchannan, sheriff-deput of Orkney, with consent of the gentlemen and suiters of the court, being put for the tyme, that whatsoever persone or persones shall slay the earne or eagle shall have of the bailzie of the parochine, qr it shall happen him to slay the earne or eagle, viii *d.** for every rick within the parochine, except of the cottars who has not sheip; and xx *s.*† to ilk persone for ilk earne's nest it shall happen him to herrie; and they shall put the same to the bailzie, and the bailzie shall be holden to present the head of the said earne at the head court."

The quantity of provision found near the nest described by Willughby, will give some notion of the devastations committed by the larger eagles. Smith, in his 'History of Kerry,' relates that a poor man in that country got a comfortable subsistence for his family, during a summer of dearth, out of an eagle's nest, by robbing the eaglets of the food brought by the old ones, whose attendance on their young he contrived to prolong beyond the usual time by clipping the wings of the eaglets, and thus retarding their flight; as also by binding them so as to increase their cries, and thus stimulate the exertions of the old ones in supplying their wants. It was well for him that the parents did not happen to discover him while thus occupied, or the consequences might not have been very pleasant. Another Irish peasant, who had determined to rob an eagle's nest on one of the islands in the lake of Killarney, was less fortunate in his undertaking. He swam over when the old birds were gone, and secured the young birds; but on his return, and while up to the chin in water, the old ones fell upon him, killed him by their terrible pounces at his head, and rescued their offspring.

It is related in the life of De Thou, the historian, that when himself and Monsieur Schomberg were passing through part of France on an embassy from Henry III. to the king of Navarre, they were entertained for some days at Mande, the seat of the Bishop and Count of Gevaudan. At the first repast it was observed with some surprise, that all the wild-fowl or game brought to table wanted either a head, or wing, a leg, or some other part, which occasioned their host pleasantly to apologise for the voracity of his caterer, who always took the liberty of first tasting what he had procured before it was brought to table. On perceiving the increased surprise of his guests, he informed them that in the mountainous regions of that district the eagles were accustomed to build their eyries among the almost inaccessible rocks, which can only be ascended by ladders and grappling-irons. The peasants, however, when they have discovered a nest, erect a small hut at the foot of the rock, in which to shelter themselves from the fury of the birds when they convey provisions to their young; as also to watch the times of their departure from the nest. When this happens, they immediately plant their ladders, climb the rocks, and carry off what the eagles have conveyed to their young, substituting the entrails of animals and other offal. The prey has generally been mutilated by the young eagles before the men can get at it; but in compensation for this disadvantage, it has a much finer flavour than any thing the markets can afford. He added, that when the young eagles have acquired strength enough to fly, the shepherds fasten them to the nest, that the parent birds may continue to supply them the longer with food. Three or four eagles' nests were in this way sufficient to furnish a splendid table throughout the year; and so far from murmuring at the ravages of the eagles, he thought himself very happy in being situated in their neighbourhood, and reckoned every eyrie as a kind of annual rent.

Eagles are remarkable for their longevity. Keysler mentions an eagle that died at Vienna after a confinement of 104 years. A golden eagle is mentioned by Pennant which was nine years in the possession of Owen Holland, Esq., having previously lived thirty-two years with the gentleman from whom he received it; but what was its age when it came into the possession of the latter person is not known. Some writers state that the death of the old eagles is hastened by the increased curvature of the beak, which prevents them from taking their food any longer; but we have no evidence of this. In old age individuals of this species become more or less hoary, or partially of a pure white. Similar changes are induced by disease or by prolonged captivity or hunger.

The eagle is capable of living for an extraordinary length of time without food. The bird that belonged to Mr. Holland was at one time, through the neglect of servants, suffered to remain without food for twenty-one days. Redi also mentions that he kept two of the same species alive, one for twenty-eight, and the other for twenty-one days, without any food whatever. Another that was caught in a fox-trap refused food for five weeks after its capture, and was then killed.

MINERAL KINGDOM.—Section XLI.

Mercury or Quicksilver.

This very remarkable and useful substance is the only metallic body which exists in a fluid state at ordinary temperatures. If, however, it be exposed to a cold equal to about 72° below the temperature at which water freezes, it becomes solid, and if there were a climate where such an intensity of cold prevailed, the inhabitants would habitually see mercury in the shape of a heavy solid shining metal, like silver or tin. The naturalist Patrin relates, that during eight winters that he passed in Siberia, he frequently saw mercury in a solid state, from the excessive cold, especially the winters from 1782 to 1785, which he passed at Tomsk. Although that town, situated on the river Tom near its confluence with the Oby, is not so far north as Montrose, the spirit-of-wine thermometer fell, five or six times, 80° below the freezing point of water, and once as low as 85°. Pallas observed at Krasnojarsk, on the Yenisei, in lat. 56°, that is, corresponding nearly to the latitude of Edinburgh, a degree of cold equal to 87°, and he there saw mercury as solid as tin. By experiments made upon this metal when rendered solid by artificial means, it has been found to have a tendency to assume regular crystalline forms, to be malleable, and to be capable of being cut with a knife. In such experiments the tools employed must be previously rendered at least as cold as the mercury, otherwise the effect would be very much the same as if we were to attempt to cut wax with a red-hot knife. A piece of solid mercury placed on the hand causes a painful sensation like that of burning, and if suffered to remain would cause a blister. Mercury contracts greatly in bulk when frozen, for at the temperature of 47° it has a specific gravity of 13·54, whereas when solid it becomes as heavy as 15·61. It boils at a heat of 662°, or nearly three times that of boiling water, and if it be pure, it will evaporate without leaving any residuum; the vapour condensing upon the surrounding cooler

* Eightpence Scots, equal to $\frac{8}{12}$*d.* sterling, then the price of a hen in Orkney.

† Twenty shillings Scots, equal to 1*s.* 8*d.* sterling, then the price of a sheep.

bodies, coating them with a white shining dew, which, when examined by the microscope, is seen to consist of myriads of minute globules. It expands by increase of heat, and up to the temperature of boiling water at least, or 212°, equal measures of heat produce equal rates of expansion; a property which renders mercury the best of all fluids for the construction of thermometers.

This metal is found in its pure state in most mines where other ores of it exist; but never hitherto in such quantity as to be a special object of working. The chief source of supply is from ores in which the metal is in combination with other mineral substances, and most commonly with sulphur. It is found in combination with silver, in which case it is called by mineralogists *native amalgam*, and this mineral, according to the analysis of Cordier, consists of 72½ per cent. of mercury and 27½ of silver. Another ore, called horn mercury, from having such a consistence as to be capable of being cut like horn, is a compound of the metal with oxygen, muriatic, and sulphuric acids; but the most common ore is that combination of mercury and sulphur commonly known by the name of cinnabar, a name used by the Greek writer Theophrastus in his 'Treatise on Stones,' written about 300 years before Christ; and Pliny says that the word is of Indian origin and signifies blood, the ore being generally of a blood-red colour.

It consists, according to the analysis of Klaproth, of 84½ per cent. of mercury and 14¾ of sulphur. This substance, both in its natural state and when prepared artificially, is used as a red paint, being previously reduced to a fine powder, when it goes by the well-known name of vermilion. There are several varieties of ore in which native mercury, cinnabar, and horn mercury are dispersed through earthy and bituminous matter in various proportions.

Mercury may be considered, in comparison with those metals we have already treated of, as of rare occurrence, the supply of it being derived from a small number of places. The ores occur in the primary rocks, and in the older of the secondary, especially the strata belonging to the coal deposits; viz., in the bituminous shales and indurated clays, often accompanied by impressions of fishes. There are no instances on record of their being met with in the newer of the secondary strata, or in any of the deposits that lie above these.

The ores of mercury have not yet been found in any part of the United Kingdom. The chief mines are in Spain, Austria, and the country bordering on the Rhine which formed a part of the ancient palatinate. Formerly there were very extensive mines in South America. Small quantities are obtained in France, Hungary, and Sweden. The great quicksilver mines of Spain are at Almaden, a small town of La Mancha, on the frontier of Cordova, south-west of Ciudad Real, and situated in the mountains of the Sierra Morena. The prevalent ore is cinnabar, which is found in veins that traverse sand-stone and slate. The veins are from two to fourteen feet thick, sending out numerous ramifications. In some parts they swell out into much greater dimensions, even to so much as fifty feet, but this is in places where branches cross each other or come in contact. The district around Almaden has been celebrated for producing this red paint from a very remote antiquity, for Pliny states that the Greeks obtained vermilion from thence at a period which was 700 years before the Christian era. The same author says, that Rome derived annually 100,000 pounds weight of cinnabar from thence; and adds, that the mine was considered so valuable, that a door was placed at the entrance of it, the key of which was kept by the governor of the province, and it could only be opened by an order from the emperor: as soon as the quantity sufficient for the supply of Rome was obtained, the door was again closed. We have no account, however, of the working of these mines until about the early part of the seventeenth century, when the then celebrated German miners, the brothers Fuggers, of whom we have spoken in describing the silver-mines of Guadalcanal, obtained a lease of them, agreeing to deliver annually to the King of Spain 4500 quintals, or about 460,000 lbs. of quicksilver. Nearly the entire produce of these mines was sent to Mexico and Peru, to be used in separating the precious metals from the ores by the process of amalgamation. Either from a failure of the ore, or in consequence of the strange policy of the Spanish government, which threw obstacles in the way of mining operations in the mother country, in order to encourage those in the colonies, or from some other cause, the mines of Almaden became considerably less productive for a long time; but about the end of the last century, the quicksilver-mine of Guancavelica in Peru having failed, the works were resumed with such increased activity, that the produce was raised from 6000 to 18,000 quintals annually, and not only Mexico but Peru was then supplied with this indispensable material from the mother country. Le Play, a French geologist, visited Almaden in 1833, and describes the mines as being more flourishing then than at any former period, yielding annually 22,000 quintals of mercury, or about 2,244,000 lbs. About 700 workmen are employed underground, and about 200 in the operations connected with the extraction of the metal at the surface. Numerous trains of mules are constantly occupied in carrying the mercury to Seville, and bringing back in return the necessaries for the mining establishment. On account of the fluidity it cannot be conveyed from place to place without extraordinary precautions. About fifty or sixty pounds are poured into a fresh sheep-skin, from which the wool is taken off, the ends of which are tied tight, and this sort of bag is inclosed in a second skin, and that in a third, and three or four bags are packed in close well-made barrels. The mercury has very injurious effects on the health of the workmen; but notwithstanding this, and although the wages are very low, there is always an eager demand for employment, workmen coming at certain seasons of the year, in the intervals of agricultural labour, even from Portugal. The veins are so considerable, that although they have been actively worked for many centuries, the excavations do not extend more than about 1000 feet.

Custom of sitting uncovered in Churches.—The custom of men's sitting uncovered in churches is certainly very decent, but not very ancient. Richard Cox, Lord Bishop of Ely, died July 22, 1581, and was afterwards very solemnly buried in his own cathedral. I have seen an admirable, fair, large old drawing, exhibiting, in one view, his funeral procession; and, in another, the whole assembly (and, as appears by the drawing, a very great one too) sitting in the choir to hear the funeral sermon, all covered, and having their bonnets on.—*Peck's 'Desiderata Curiosa.'*

NOTE.—There is an error in the 'Penny Magazine,' No. 208, with reference to the Statue of Lord Erskine, in the Hall of Lincoln's Inn, which we are anxious to correct. That Statue is not the work of Mr. Chantrey, as there stated, but of Mr. Westmacott. We much regret that this accidental mis-statement should have occurred. In a future Number we shall be able to give an engraving of another fine statue by Mr. Westmacott,—that of Addison.

*** The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

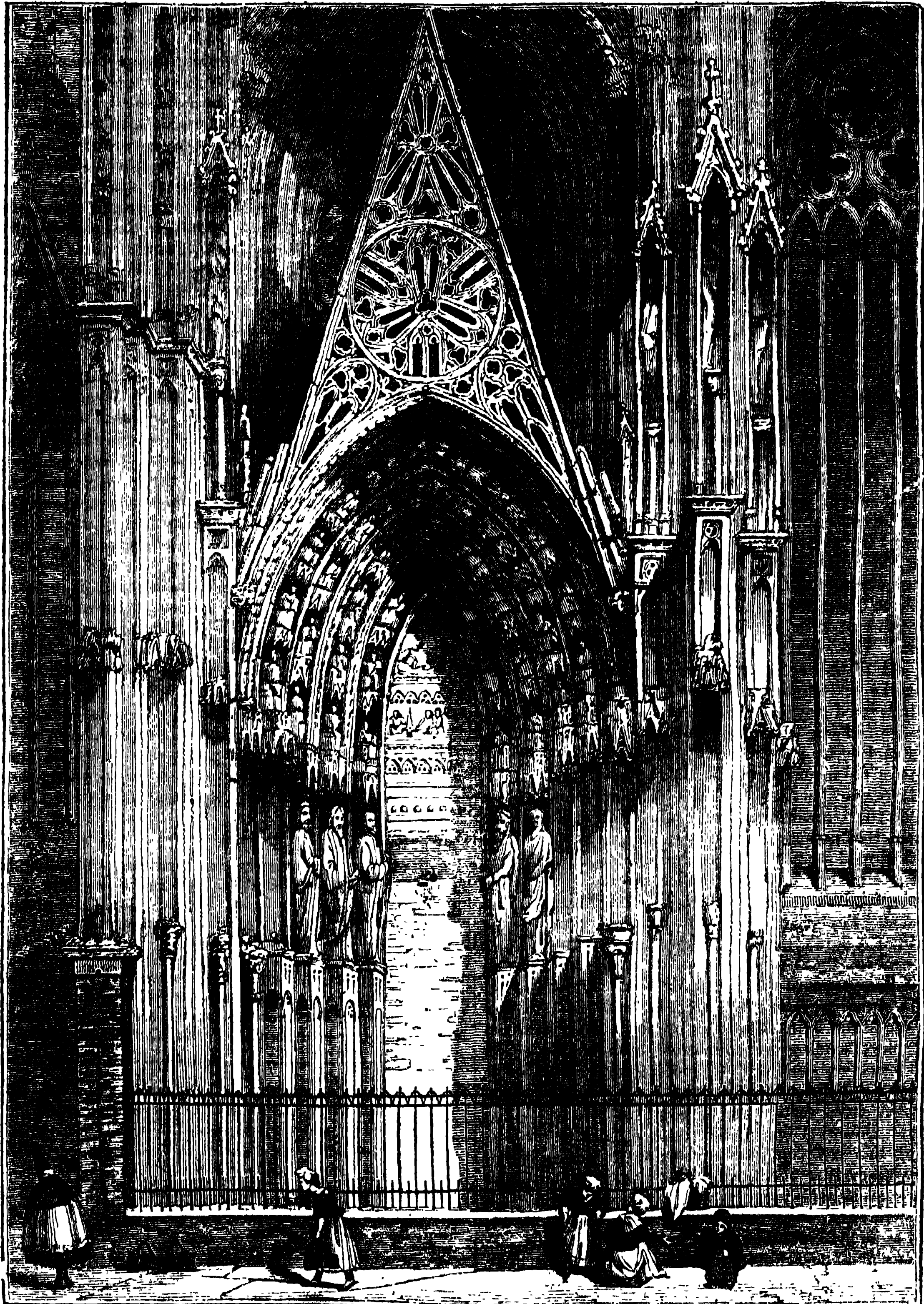
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COLOGNE.



[Cologne Cathedral.]

Some account of Cologne has already been given in No. 52 of the 'Penny Magazine.' We shall at present advert to a few curious particulars concerning that city, which could only be briefly indicated in a general notice.

Cologne has always been much distinguished for the number and wealth of its ecclesiastical establishments, and for the fully adequate proportion of relics which they possessed. In these respects, indeed, there has perhaps been no city in Christendom equally distinguished. Some of the more remarkable objects may be mentioned in connexion with the churches which contain them.

The greatest curiosity at Cologne is its cathedral. We are told that it was the pious design of the elector Conrad to erect a temple which should surpass every other among the Christian churches. It was begun in the year 1248; and his successors continued to build till the year 1499—not less than 251 years. They then found that their resources were too limited for the extent of the design. It was therefore left incomplete, and while one part of it (the choir) was so far finished as to be appropriated to religious uses, the other was suffered to moulder away in ruins. Had the original design been carried into execution, the cathedral would have formed one of the finest and most stupendous Gothic edifices in Europe; and even as it stands at present, overgrown with grass and mouldering away with age, it presents a spectacle of great sublimity. The body of the church is so very extensive, that four ranges of massy columns, about one hundred in number, do not seem to crowd it. The four middle columns are not less than forty feet in circumference. The grand altar is magnificent; and is formed out of a single piece of the finest black marble, sixteen feet in length and eight in breadth. This cathedral seems to have obtained less attention from travellers than its architectural merits fairly claim. There is, however, no lack of information concerning the relics which are deposited within its walls. The principal in the list are the bones of the twelve apostles, the cross of St. Peter, the magnificent shrine of St. Engelbert, and the sarcophagus of the three Magi, who were guided by the star to Bethlehem at the birth of Christ. The presumed possession of the bodies of these personages has conferred more celebrity on Cologne than any other single set of relics. "The three Kings of Cologne" became a proverbial expression, which frequently occurs in our own old romances. Indeed, the cathedral itself, although dedicated to St. Peter, is more commonly known as the "Church of the three Kings." There is nothing in the Scriptures to inform us of the number, the rank, or the names of the personages in question; their number, however, has in this instance been fixed to three, their quality is not considered less than kingly, and even their names (Gaspar, Melchior, and Balthazar) have been preserved. The legend states that, after their return to their own country they were baptized by St. Thomas, and that their bodies were, about 300 years afterwards, translated by the Empress Helena to Constantinople, whence they found their way to Milan, and ultimately to Cologne, although the people of Milan assert their continued possession of the relics. The sarcophagus is distinguished for the beauty of its sculpture and the profusion of its ornaments. The relics lie in a large purple shrine, spangled with gold, and set upon a pedestal of brass in the midst of a square mausoleum, which is faced within and without with marble and jasper. It used to be opened every morning at nine o'clock, if two of the canons of the cathedral were present, when the bodies of the magi were seen lying at length, with crowns of gold and precious stones on their heads. Their names, in purple characters, appeared in a small grate, which was decorated with rich pearls and precious stones, among which was an Oriental topaz, as large as a pigeon's egg, valued at 30,000 crowns. Opposite, wax-lights were kept continually burning in six large branches of silver. The mausoleum or chapel which contains the bodies was built by the Emperor Maximilian. The above account of the shrine is particularly applicable to the appearance it presented previously to the occupation of Cologne by the French. They, for a time, turned the cathedral into a granary. We are not informed of the precise amount in which the ancient splendour of the shrine has diminished.

Next to the cathedral, the most celebrated church is that of St. Ursula. Its celebrity, however, solely arises from its relics, which consist chiefly of the bones of the "eleven thousand virgins," headed by St. Ursula, who were martyred here in the year 640. These virgins have the credit of having been English women; but as it is difficult to understand how so large a number could be brought together in a country so thinly peopled as England then was, and nearly as difficult to apprehend how a single boat could carry them across the water, some persons are inclined to think that, instead of eleven thousand virgins, there was only one, with the name of Undecimilla, which by some blundering monk was changed into eleven thousand. Others think that the number was eleven, of whom a record was made by the cipher XI.M.V., that is, the eleven martyred virgins; but which was, in the same manner as last instanced, misunderstood for eleven thousand. However, this difficulty is not felt at Cologne, and the walls and floor of the church of St. Ursula are abundantly stored with bones and coffins. Some of the heads are cased in silver, others are covered with stuffs of gold, and some have caps of cloth of gold and velvet. One writer mentions that he saw between 4000 and 5000 skulls arranged on shelves in the church, and decked with garlands and coronets. A tuft of hair adheres to one of the skulls, and is adduced as an evidence of incorruptibility. Some of the bones attributed to the vigins appear to be those of infants; and Dr. Cogan mentions an instance in which a surgeon of eminence had been banished the city for hinting his opinion, as an anatomist, that, among the collection of bones which are said to pertain to the heads, there were several belonging to large full-grown mastiffs.

The church of St. Peter is chiefly remarkable for a fine painting of the crucifixion of St. Peter, by Rubens. In the opinion of the artist, it was one of his very best works, having painted it with unusual care and exertion out of compliment to this church, in which he had been baptized. He presented it at the time that he claimed a copy or certificate from the baptismal register. The directors of the church were, however, so far from receiving this noble gift with the gratitude it deserved, that they manifested considerable discontent that the donation was not of a pecuniary nature; and some of them even proposed that a present which was of personal advantage to no one should be returned: but this motion was over-ruled. This contest came to the knowledge of Rubens; and he immediately offered them several thousand crowns—it is said twenty-eight thousand—if they would return it to him. On this, the proprietors concluded that he must consider the picture inimitable, or he would else rather have painted another like it than part with so large a sum. The price offered for the picture enhanced its value immeasurably in their sight: professing to be men of taste, they declined the offer, and ever afterwards treated the painting with due respect. It was carried to Paris by the French in 1794; but, like similar spoils from other quarters, was restored about twenty years after.

The fine collegiate church of St. Geron, which was built in the eleventh century, has a vast cupola, which

is much admired. It contains the alleged skulls of 900 Moorish warriors, who were converted by St. Gregory the Ethiopian, and afterwards suffered martyrdom for refusing to sacrifice to idols. The skulls are each furnished with a scarlet cap adorned with pearls. A jasper column sprinkled with blood, and which is stated to have helped to support the scaffold on which they were executed, is also shown in the church. The Jesuits' Church, which is one of the finest in the city, was remarkable for its internal wealth. It contains portraits of the first thirteen generals of the Order, with Ignatius Loyola at their head, and some fine statues; and was noted, even at Cologne, for the profuse display of gold and precious stones in the ornaments and utensils of its different altars. The church of the Augustine Friars is remarkable for its handsome portal; it contains the tomb of Duns Scotus, and the manuscripts of that "subtle Doctor" are contained in the library. The only other church we shall mention—that of the Maccabees—contains some remarkable objects of popular superstition, among which are the heads of the personages to whom the church is dedicated, and which on high festival days are exposed to public view, ornamented with costly crowns. Here are also the heads of the father and mother of the Virgin Mary.

There was perhaps nowhere to be found a more striking contrast than that which appeared at Cologne between the wealth of the churches and the misery and want of an unusual proportion of the population. No city in Germany, with the same population, contained so many beggars as this "Holy City," as it was sometimes called. They formed a regular corporation of privileged mendicants. They sat upon rows of stools placed for them in every church, and took precedence according to their seniority. When the eldest died, his next neighbour took his place, and many of them had stools in several churches, which they visited alternately on the days of the most brilliant spectacles. On the few days of the year in which there were no spectacles they roamed about the streets, and assailed strangers with great importunity and insolence.

Perhaps it would not be quite fair to attribute the poverty and misery into which Cologne had fallen to any single cause. The principal cause must be sought in the decline of its commercial importance. Since the French took possession of the place, much that has been said about the internal riches of the churches has ceased to be applicable: the number of priests and mendicants has also considerably diminished, and, since the blessing of peace has been granted to Europe, the prosperity of Cologne seems to have partially revived. The population, which, at the commencement of this century, had fallen below 40,000, is now not less than 65,000.

THE TEAGLE.

(*Abridged from Dr. Ure's 'Philosophy of Manufactures.'*)

THE moving power of a large factory, besides performing its proper tasks of carding, roving, spinning, weaving, &c., does a vast deal of miscellaneous drudgery. It raises the coals from their bin in the boiler-yard by a sloping series of buckets, like those of a dredging machine for deepening rivers, and delivers them on an elevated railway platform into a waggon—through the drop-bottom of which they are duly distributed among the range of hoppers attached to Stanley's ingenious furnace-feeding machines, and are thereby strewn into the fires in proportion to the demand for steam to work or warm the mill. In this way the fire-man is entirely freed from muscular effort, so that he can tend with ease many great steam-boilers, and is not liable through ignorance or negligence to mismanage the heat, or dissipate the fuel in such black clouds as lour over a London brewery. It is no uncommon thing in Manchester to see engine-boilers equivalent to the force of from 200 to 300 horses generating their steam without any sensible smoke.

But there is another office more truly menial assigned to the engine, that of transporting any of the work-people upwards or downwards to any floor of the factory, to which their business may call them at any time, and this with equal celerity and safety. To ascend and descend rapidly through several flights of stairs is no trifling source of fatigue, as domestic servants in some fashionable houses well know. Masters of mills, with the twofold motive of benevolence and economy, have long ago taken measures to supersede this painful exertion, by the construction of moveable platforms, inclosed in upright tunnels placed in convenient parts of their many-storied buildings. This apparatus is called a hoist or a teagle, and is usually of such size and stability as to allow half a dozen persons, old and young, to travel at once from any one floor to any other. The motion is perfectly smooth and agreeable, as I have often experienced; and is so entirely under control as to cease at any desired instant opposite to any of the issue-doors in the side of the tunnel.

The muscular force expended in mounting stairs was made the subject of experiment by M. Coulomb. Amontons had previously found that an active man, weighing 150 lbs. English, was completely exhausted in ascending, by steps, sixty-five feet in thirty-two seconds. The full work of a man is obtained by his going up-stairs at the rate of forty-five feet in one minute. A man weighing 160 lbs. can ascend by stairs three feet per second for a space of fifteen or twenty seconds; and if he be supposed going up-stairs for a day, he actually raises 450 lbs. to the height of 3281 feet; or 1,476,450 lbs. one foot high. If the day be reckoned at ten hours, or 600 minutes, he will raise 2460 lbs. one foot high in a minute, which is only one-thirteenth of Watt's estimate of a horse's power =3200 lbs. raised one foot high per minute. With a winch a man does, according to Coulomb, only five-eighths as much work as in going up stairs. If the above observations be nearly correct, they prove the expenditure of power in ascending stairs to be great. Coulomb says that this mode of action is the most advantageous for the muscular force of man, though he rates its amount at little more than one-half of Smeaton's estimate of an English labourer's force.

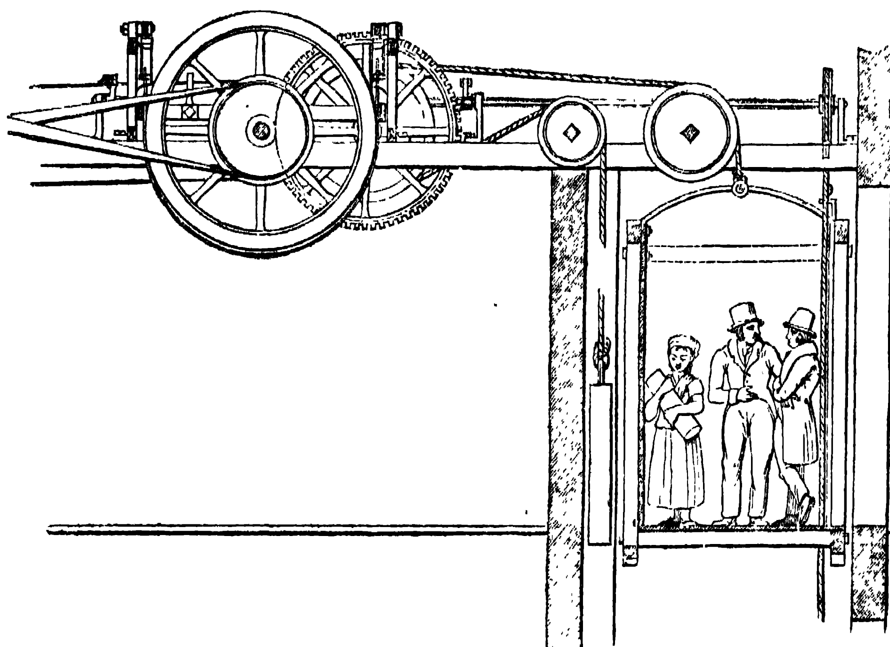
The teagle (tackle?) or hoist, consists of three principal parts.

1. The perpendicular shaft or pit, having a horizontal section, of about five or six feet square, placed in the most convenient part of the building, and extending from the ground-floor to the top story.

2. The ascending and descending platform, suspended by ropes from pulleys, and moved up and down by machinery. It is a strong frame-work of timber, about six feet high, boxed up on three sides with deals, leaving the front side open, in correspondence with a series of doors on the several floors of the factory. The power required for hoisting is moderated by over-balancing the platform with two counter-weights, together about a hundred weight heavier than itself, which ascend and descend equably with the descent and ascent of the platform; and which, as well as the platform, are suspended by ropes from the opposite sides of the shaft to secure a steady vertical motion. Two large planks are fixed upright upon the opposite walls of the shaft, as guides to the platform, and two smaller ones as guides to the counter-weights, the latter being sunk groovewise into the building.

3. The third part of the teagle is the machinery capable of being set in train with the moving power.

The following figure shows a longitudinal view of the working geer, and a section of the pit with the platform raised to the top story, opposite the door of the uppermost floor.



[The Teagle.]

ADVENTURES IN MESOPOTAMIA.

IN an account of the Plague of Bagdad, which was given in Number 106 of the 'Penny Magazine,' it was stated that several parties of persons who endeavoured to escape to distant towns were intercepted by the inundations of the river Tigris; and that while they waited on elevated spots of ground until the waters had subsided, their numbers were daily thinned by the plague. For although they had left Bagdad to avoid that terrible malady, they had not taken any precautions to exclude its presence from their parties as they went. The following narrative embodies an account furnished by one of the comparatively few persons who survived the multiplied calamities which attended this attempt, and returned in safety to Bagdad. He was a very intelligent lad, a native of Persia, but of an Armenian family, and consequently of the Christian religion. He had been brought to Bagdad by an uncle, who was his nearest surviving relative; and for several months previous to the plague had resided with an English family with which his uncle became connected, and in a short time made a very considerable progress in learning the English language. Although, however, the following account is given in the first person, it is not offered to our readers as his own composition, but as having been prepared from statements made by him at different times and on various occasions. No further preface is necessary; unless to add that, when the plague had broken out at Bagdad, the lad's uncle determined to join a party that was about to proceed to Damascus, taking his nephew with him.

When the plague drove us from the city of Bagdad, we crossed over towards Hit on the Euphrates, intending to pass the river at that place in our way to Damascus. There was nothing remarkable the first day, or the second day, of our journey—or if there was, it was only in some small things, which the great things that happened afterwards have made me forget. On the third morning we arose three or four hours before the sun, and proceeded on our way. I was not quite awake for the first hour or more, and rode along dozing and nodding upon my mule,—which was the mule that carried, in two bags that were under me, my uncle's things and mine. After that I became quite awake and fresh, and then I looked back to the quarter where the sun rises, that I might see if day-light was coming. But I saw that it was still a good while from day. As I was turning away, my looks fell towards the ground, and I was astonished when I observed that the light of the stars fell brightly upon it, as it falls upon waters. Then I knew that our muleteers did not know the way to Hit, and were guiding us wrong; else, how was it that we were still so near to the river which we had left two days before? As I looked on to trace out the direction of the river, I saw that it made a large sweep at a considerable distance on our right hand; and when, in continuing to trace its course, I faced round in the direction we were travelling, I saw the stars twinkling on the water *before* us, but at a greater distance than to our right hand—so distant indeed, that I should not have observed it if my attention had not thus been drawn towards it. I saw also that the waters before us swept round on the left hand, so that the waters before us met those behind us, both on the right hand and on the left. This I could not understand. The water behind us ought to be the Tigris, and the water before us the Euphrates; but at the distance which we had travelled from the former and still had to travel to the latter, I could not understand how it was possible that I should see either of those rivers, much less both at once. I therefore thought for a moment that there must be some great bend in one or both of those rivers, of which, being a stranger in the country, I had never heard.

Nevertheless, I was still so much surprised that I rode up to my uncle, who was dozing on his horse a little way before me, and I said to him:—"Agha, I do not understand the rivers of this country! Look: the waters are all around us. How shall we get out?"

My uncle roused himself, and asked what was the matter? I repeated what I had said, and then he

looked around him. He smote his hand upon his forehead, and then spoke to the persons near him, directing their attention to the waters by which we were enclosed. From their conversation, I gathered that this appearance could only be occasioned by an overflow of the rivers, which are usually filled at this season, when the snow thaws on the distant mountains. The caravan then halted, and the people asked one another what might be expected, and what was to be done. The sheikh of the caravan said that, judging from the rate at which he knew that the waters must have followed us, the ground on which we then stood would be covered with water within three hours of noon. He said that it was very uncommon for the rivers to overflow at this part, and he therefore did not expect that the waters would rise very high; and he thought that, if we could get to some spot of high ground, our only inconvenience would be the delay of waiting there a few days until the waters subsided.

"But," said my uncle, "suppose we do not, in this flat country, find such a rising ground as you speak of?"

"Why, then, the faithful must prepare for Paradise; for were the waters no higher than the knees of our camels, it would be impossible for us to get through them to Hit."

After a little consideration, he recollected that, at the distance of about four miles to the west, there were some of those mounds in which the ancient idolaters, who formerly inhabited the country, were accustomed to bury their dead; and he said that, if we could get there, we might, on those mounds, await the result of the inundation in safety. We accordingly proceeded in the direction towards the sepulchres.

When the day broke, our conductor smote his hands together. "Since Bagdad was a city," he said, "there has been no inundation like to this. Look yonder! there are the mounds; and look around you."

We looked, and saw that, by this time, the circuit of dry land around us had become exceedingly contracted; and that between us and the mounds, which looked like islands in a boundless sea, there lay at least a mile's breadth of water. The sheikh bade us hasten for our lives; and we accordingly rushed on and entered the waters, where we found that we had to buffet with a strong current from the north-east. The water increased in depth and force as we advanced, and at last our progress became very difficult. One camel, that was rather heavily laden with dates and other provisions, slipped and fell. As we could not wait to raise him with his load, the man who rode him cut the straps which fastened the pack-saddle and burden to his back, and then leaped upon a horse behind another person. The camel, perceiving the danger of its situation, contrived to get up, and hastened after us, leaving its invaluable burden in the water.

We all reached the mounds in safety, and in the first joy of our escape forgot the dangers which lay before us. We had no apprehension that the mounds on which we were could be overflowed, and our first inquiry was into the state of our provisions. "Come what will, we shall not want for water," one person said. I looked into his face to see if this was only a bitter jest, but he looked serious and thankful; and I recollected that, when one is on a journey, water is always the first consideration. As to provisions, we found that there was among us a tolerable supply of dates, but scarcely any thing else. The sheikh advised us to throw all our separate supplies into a common stock, and make to each person a daily allowance, to be regulated by a calculation as to the longest probable duration of our stay. "How long that may be there is no knowing," he said, "but we must consider that if we should wish to kill the camels and horses we have no fuel with which to dress their flesh." We accordingly threw all our dates into the sheikh's cloak, which he spread upon the ground. They made a fine heap; but the old man sat down beside them, and counted them out carefully upon another cloak, when he found that, calculating we might be detained there a fortnight, there was not more than twenty-five dates a day for each person. It was agreed, however, that we should be content with only twenty, although we all knew that twenty dates a day could not long sustain the life of man.

The cattle that were with us formed no small part of our care. The barley and chopped straw which remained was not sufficient for three days; and if our beasts perished through want, our own escape would be delayed, as we must then wait till the waters should be quite dried away from the face of the land. It was at last determined that the barley and straw should be reserved for the horses, with the exception of one or two mouthsful, which should be given to the mules every morning; and that the camels and asses should be left entirely, and the mules partly, to get their own living from the herbs which were scantily dispersed over the mounds. We had least fear for the camels; not only because they are better able than other cattle to go without food, but because there were several tufts of their favourite herb, the camel-thorn, growing on the mounds where we had found a refuge.

Although I call this place "the Mounds," yet, properly, there was but one large heap of high ground. The ancient idolaters of the country had in this place raised up several of those heaps in which they used to bury their dead in jars of earthenware; but, in the course of many ages which have passed, the soil and gravel, washed down from the tops and the sides, had raised the low ground which was between and around them, and moulded them into one common mass large enough to afford accommodation for ourselves and our cattle, and high enough to secure us from the flood, at least we thought so. But when day after day passed away, and we saw that the waters slowly but constantly increased, there was only one among us who appeared to feel no serious alarm for the consequences. That one was the sheikh himself. In the first alarm of the inundation, and before we had reached the mound, no person of the party had seemed more apprehensive. But now all his care was about his cattle, and all his complaints were about the delay. Notwithstanding the steady ascent of the water, he laughed to scorn the apprehension that our place of refuge would be overflowed. He said that never, in his own memory or his father's memory, had inundations which could cover such mounds happened in any part of the country; and he asked triumphantly, how it was possible for a thing to happen which had never happened before? And, particularly, how could it happen in this part of the country where inundations, when they took place at all, were trifling compared with those which were known farther down towards the Gulf. He forgot that he had himself said before that such an inundation as the present had not been known since Bagdad had been a city.

Our situation was the more unpleasant from our being debarred from all occupation or amusement, so that each day seemed three times longer to us than the days to which we had been accustomed. My uncle said, and the others agreed with him, that if there were plenty of tobacco which they could smoke, and coffee which they could sip, it would be possible to wait the end in patience. But unfortunately the supply of these necessaries was as scanty, and required to be as carefully husbanded, as our dates. When we awoke in the mornings the first business any one thought of was to examine the state of the water; and great was our sorrow of heart when we found, day after day, that the

mark was covered which, on the evening before, we had set above the water's edge. We seemed like shipwrecked mariners upon a rock in the great ocean; but we were without the hope that any vessel might pass by and relieve us, and we had the fear that the encroaching waters would soon sweep us from our place of refuge.

[To be concluded in our next.]

ON THE RESEMBLANCE BETWEEN THE APOLOGUES OF DIFFERENT COUNTRIES.

[WE have received a letter from a purchaser of this work * who protests against our intention of furnishing our readers with a series of fables, characterized by him as "fit only for children between three and four." We have considered the subject well, and see no cause to alter our design. It is worthy of our correspondent's consideration, whether compositions which have engaged the best attention of such men as Gay, La Fontaine, De la Motte, and Northcote, as writers of fables, and of Sir William Jones, Baron Silvestre de Sacy, Dr. Wilkins, Mr. Knatchbull, Mr. Hayman Wilson, and others, as translators and editors, may not be entitled to somewhat more respect than he has been pleased to grant to them. We can assure him that many of the best informed and most intellectual of our readers will be gratified in having these fables brought under their notice, if only for the sake of the curious comparisons, as to the growth of their own minds, which they cannot fail to make when they recollect the delight which such apologues afforded them early in life. For our own parts it is always with a feeling very different from scorn that we look back upon the things which interested us in our childhood. We beg also to remind our correspondent that the fable itself occupies but a small portion of our space; and if he cannot overcome his disgust, we recommend him to leave the fables and the pictures to his children, and confine his attention to the general information concerning fables and fabulists, with which the present and following apologues will be introduced.]

THE resemblances which exist between the fables and other fictions of different and remote nations, is a very extensive subject, on which volumes of much interest might be written. We can touch on it but briefly at present; but perhaps may find occasion for some incidental allusions to it, when we come to consider the principal collections of fables which have appeared in Asia and Europe. It is very probable that many of the analogies which have been adduced in proof of a common origin do in fact only exemplify those casual resemblances of thoughts and circumstances which frequently excite surprise in common life, and which, as otherwise exemplified, sometimes lead persons in different countries to so nearly the same conclusions and discoveries, that, when they are made public, we hesitate to say to whom the credit should be given. Nevertheless, after making a large allowance, in the matter before us, for such casual analogies, sufficient will probably remain to oblige us to refer to a distant source many of the most popular European fables which have been attributed to Æsop and others. This source is in the East—generally in India; to which, after intermediate researches in France, Italy, and Spain, and in Arabia and Persia, we arrive at the well-spring in Hindustan. This is by no means exclusively true of fables only; but extends to the more finished tales of the Italian and French novelists, on which so many of our old plays are founded. Even the story of the "pound of flesh," which forms the main incident in Shakspeare's play of the 'Merchant of Venice,' the origin of which long baffled the search of the commentators, has now been discovered in an eastern author. This is still more true of many of our nursery tales, of our proverbs, and even of our most popular jests. The Chinese and the Indians have been laughing for thousands of years at jokes, the credit of which has, in this country, been given to Joe Miller and other worthies. This need not surprise us, when we consider that many of our arts and a considerable quantity of our knowledge have undoubtedly been derived from the East. The same channels of communication were as open, perhaps more open, for tales and other fictions as for practical and philosophical knowledge.

* There are eleven signatures to the letter, but as they seem to be all, or nearly all, in the same hand-writing, we address our correspondent in the singular number.

If we go to India, as to the fountain-head, we see that the Persians, a literary people, had much intercourse with India, even in very ancient times; and they, in their turn, had considerable intercourse with the Greeks, among whom the first European fabulists appeared. It is obvious that the Greeks might obtain from the Persians something of what the latter had derived from India. Then again, in later times, the Arabians had much intercourse with Persia, and some with India, and even with China; and it is still easier to perceive how the popular fictions which they thus variously acquired, together with many of their own, might be picked up by Europeans, during their wars in Asia for the recovery of Palestine, and still more while the Arabians were the rulers of a great empire in Spain. In the instance of fables, they were probably mingled up with those of the various nations through which they passed, and were perhaps often altered and modified, so that it has become difficult to distinguish the original property. We may also suppose that only those were taken from one nation by another, the details of which would be as intelligible in the country to which they were transferred as in that where they originated; or, if such were taken, that their peculiarities were modified, or the characters changed, to render them more expressive, or to adapt them to the apprehensions of the people to whom they were offered. Thus it would happen that those fables which might have afforded the best intrinsic evidence of their origin, are precisely those of which the fewest have been borrowed, or being borrowed, have lost in their travels the distinguishing features by which their origin might be recognised. Nevertheless, we are of opinion that a large number of fables retain sufficient intrinsic evidence of their origin, to enable a person well acquainted with the subject, and with the peculiar manners, opinions, and products of the different countries, to trace them to their source without much difficulty. Thus, for instance, the fable of the 'Man and his two Wives,' who respectively deprived him of his black and his white hairs until he had none left, would appear to have originated in a country where polygamy was allowed, and was intended to express some of the evils of the practice. The numerous fables about wolves and sheep, &c., may be referred to a pastoral people, possibly the early Greeks, and are perhaps the most ancient of any apologues. To Greeks of a later day we may assign such fables as those of 'Mercury and the Statuary,' and others, in which the deities of the country are introduced in their appropriate characters. Fables in which wild monkeys and apes, elephants, and perhaps tortoises, are suitably introduced, we may suspect to come from India. Many in which camels and gazelles are prominent characters, may perhaps be traced to Arabia: as in the instance of the 'Camel and the Fly,' which would have scarcely occurred to an European imagination. As we cannot find this fable in the common collections, and therefore suppose it may be new to many of our readers, we here give it in the quaint language of the edition of Æsop published in 1650.

"It happened that a fly, because of the camel's hair, leapt to the back of the camel, which was laden, and was borne of him all the day. When they had gone a great way, and that the camel came to his inn, and was put in the stable, the fly leapt from him to the ground, beside the foot of the camel; and he then said to the camel, 'I have pity on thee, and am come down from thy back, because I would be no more burdensome unto thee.'—And the camel said to the fly, 'I thank thee; howbeit I was not overladen of thee.'"

So in the same manner many of the fables of the nightingale might be traced to Persia, which is pre-eminently the land of the nightingale. The story of the 'Labourer and the Nightingale,' which we find in some of our old collections, occurs also in the "Rose Garden" of Saadi, a famous Persian author. Vegetable products in fables might also afford a similar clue. We may infer that fables, in which the cedar, the olive-tree, the pine-apple, or the pomegranate are introduced, come from or have passed through countries where those trees and fruits are common.

These suggestions as to intrinsic evidence might be extensively carried out, and illustrated by numerous and curious instances. It would be necessary, however, to exclude from consideration modern European fables, not only because their origin is known, but because, from our extensive knowledge of foreign countries, the modern European fabulist is enabled to employ foreign animals and products in a manner which will, to a future age, render the rules of intrinsic evidence nearly nugatory, so far as fables of this class are concerned. Yet there will still be some intrinsic evidence, either negative or affirmative, which it will not be easy to mistake. No one will ever endeavour to trace to India the fable of the 'Elephant and the Bookseller;' nor will any one hesitate to assign either to England or Holland the fable in which the companies of tradesmen deliver their opinions concerning the building of a city wall. The fable is Dutch; and we shall hereafter have occasion to notice the collection to which it belongs.

Having mentioned India as the great fountain-head of such fables as we have under consideration, we should add, that almost every orientalist of note has given his testimony in favour of this opinion. The Hindoos, indeed, are said to boast of three principal inventions; namely, the mode of instruction by apologues; the decimal system which is now adopted by all civilized nations; and the game of chess. With regard to the first of these claims, the following is the opinion of Sir William Jones, as given in his 'Third Discourse on the Hindoos.'

"We are told by the Grecian writers that the Indians were the wisest of nations; and in moral wisdom they were certainly eminent: their Nitri Sástra, or System of Ethics, is yet preserved; and the fables of Vishnuserman, whom we ridiculously call Pilpay, are the most beautiful, if not the most ancient*, collection of apologues in the world: they were first translated from the Sanscrit, in the sixth century, by the order of Buzerchumihr, or Bright as the Sun, the chief physician, and afterwards vizier of the great Anúshireván, and are extant under various names in more than twenty languages; but their original title is Hitópadésa, or Amicable Instruction; and as the very existence of Æsop, whom the Arabs believe to have been an Abyssinian, appears rather doubtful, I am not disinclined to suppose that the first moral fables which appeared in Europe were of Indian or Ethiopian origin."

We may also introduce another passage, bearing on the same subject, from Sir John Malcolm's 'Sketches of Persia,' some parts of which we particularly recommend to the attention of the correspondent whose reproofs we have been so unfortunate as to incur without feeling obliged to promise amendment.

While travelling in Persia, he was one day amused by a tale which a Persian, named Hajee Hoosein, related as they rode along, which described how an ingenious fellow named Ameen contrived to outwit a formidable monster in a human shape, who, with others of his kind, infested a valley in the neighbourhood of Ispahan. Ameen having encountered the monster, went with him to his cell, and there, by great presence of mind and ingenuity, not only preserved his own life, but persuaded the Ghool (the Persian name of the monster) that he was no longer safe in his own cave, from which he therefore took an opportunity of escaping. We give the rest in the words of the writer:—

"When Ameen found his host gone, he was at no loss to conjecture the cause; and after examining the contents of the cave, and arming himself with a matchlock, which had belonged to some victim of the Ghool, he proceeded to survey the road. He had, however, only gone a short distance when he saw the Ghool returning with a large club in his hand, and accompanied by a fox. Ameen's knowledge of that cunning animal instantly led him to suspect that it had undeceived his enemy, but his presence of mind did not forsake him. 'Take that,' said he to the fox, aiming a ball at him from his matchlock, and shooting him through the head; 'take that, for not performing my orders. That brute,' said he, 'promised to bring me seven Ghools, that I might chain them and carry them to Ispahan, and he has only brought you, who are already my slave.' So saying, he advanced towards the Ghool; but the latter had already taken flight, and by the aid of his club bounded so rapidly over rocks and precipices, that he was soon out of sight." * * *

"I was much pleased with this tale," proceeds Sir John, "first as it bore so near a resemblance to some parts of my earliest favourite, 'Jack the Giant Killer;' and next, as the last incident of the fox bringing back the Ghool, was an exact copy of the story of 'the Goat and the Lion,' in the celebrated Hindoo work, the 'Pancha Tantra*.'"

He then gives the fable, the resemblance of which to the above is very striking. The fox acts the same part in both fables, and in the Hindoo fable the lion represents the Ghool, and the goat the Ameen of the other. Sir John then proceeds:—

"I narrated this story to my Persian friend, saying, 'This proves to me what I have long conjectured, that the greater part of your tales are taken literally from the Hindoos.' 'Is it not as likely that they have been stolen from us?' was the reply. 'No,' said I, 'for their works in which these tales are written are much older than any you have.' 'That may be,' said he, 'but they are not older than Keiomerth, Housheng, or Jemsheed. These were the glorious days of Persia, and no doubt it was in their time that the wily Hindoos stole our stories; and if our conquering swords have since made us masters of India, and we have plundered a few tales along with other articles, why we have only recovered our own.'

"Khan Sahib, who had been riding along with us, smoking his kelliân, but who had not as yet spoken a word, now, with much gravity, took up the conversation. 'I have listened,' said he, 'with great attention to Hajee Hoosein's most wonderful tale of the Ghool, and,' addressing me, 'to your supplement about a goat, a fox, and a lion. I shall store what I have heard in my memory, for the benefit of my excellent grandmother, whom it is my duty to amuse These tales shall also be given, word for word, to my little children, who will no doubt be as much delighted as I have been, to hear how a stupid monster was outwitted by a lying rogue, and how an impudent goat frightened a valiant lion. The dispute,' proceeded Khan Sahib, 'regarding the origin of such sublime productions, no doubt involves matter deeply associated with the fame of the renowned empires of India and Persia; and in the present dearth of that article, I do think they are right in claiming all they can for their ancestors.'

"'I quite understand, my good friend,' said I, 'the

* Sir William here appears to allude to a more ancient Indian collection of fables than those of Pilpay. We shall have occasion to notice both collections hereafter.

* This is the work already mentioned as older than Pilpay.

contempt you bestow upon the nursery tales with which the Hajee and I have been entertaining each other; but, believe me, he who desires to be well acquainted with a people will not reject their popular stories or local superstitions. Depend upon it, that man is too far advanced into an artificial state of society who is a stranger to the effects which tales and stories like these have upon the feelings of a nation; and his opinions of its character are never likely to be more erroneous than when, in the pride of reason, he despises such means of forming his judgment.'

"'Well, well,' said Khan Sahib, 'there may be some truth in what you say; and I am the more inclined to believe it, as all the learning and philosophy which my good father endeavoured to instil into me never wholly eradicated my early predilection for such stories.'"

The fable with which we now present our readers is that of 'the Horse and the Laden Ass.' Of the several versions we have examined there is none that perfectly satisfies us. That of Ogilby, published in 1651, is perhaps the best and most vigorous, and we accordingly give it. It is occasionally obscure, like most of the versions of this author, which however possess in general so much merit, that we shall frequently give him the preference. His versions must also have the advantage of being new to most of our readers:—

"Dear brother horse, so heavy is my load,
That my gall'd back
Is like to crack;
Some pity take,
Or I shall perish on the road:
For thy fair sister's sake,
Who once did bear
To me a son, a mule, my hopeful heir,
Assistance lend,—
My burthen share,
Or else a cruel end
Waits on thy fellow servant and thy friend:
Here I must lie
And die,"
The tired ass said, as th' empty horse went by.

Prick'd up with pride and provender, the horse
Denied his aid:
"Shall I," he said,
"My own back lade
And hurt myself, stirr'd up with fond remorse?
My prudent master laid
This on thee, who
Better than you or I knows what to do.
My sister mare
Was given to you,
Our nobler race to spare;
The ass and mule must all the burthens bear:
I must no pack,
Nor sack,
But my dear master carry on my back."

This said, heart-broke the ass fell down and died.
The master straight
Laid all the weight
On his proud mate;
And spread above the ass's hide.
Repenting, but too late,
The horse then said,—
"Thou, most accurs'd, didst not thy brother aid;
Now on my back
The whole burthen's laid.
Such mortals' goodness lack
And counsel, which their friends distress'd not aid:
Had I borne part,
The smart
Had been but small, which now must break my heart."



['The Horse and the Laden Ass.']

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* The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.
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KENILWORTH CASTLE.



[View of Kenilworth Castle from the Gate-House.]

"THE annals of this extensive and illustrious fortress are replete with interesting and curious facts, and embrace a great variety of incidents and events calculated to display the national customs and domestic arrangements of our puissant barons, from the early epochs of Norman domination in England to the termination of Elizabeth's reign. In contemplating the bold fragments and shattered ruins of this castle, and reflecting on the scenes of warfare and rude pageantry which have prevailed here at different and distant ages, the mind is at once fully occupied and delighted. It becomes difficult to persuade ourselves of the reality of the scene, and fix attention on positive occurrences. The visions of romance flit before the imagination, and we are liable to confound the creations of fancy with the evidence of facts."

In 1814 Mr. Britton thus introduced the account of Kenilworth Castle which is given in his 'Architectural Antiquities of Great Britain.' If the concluding portion of this passage was then true, it has since become infinitely more so. Since then, he who carried minds captive at his will has been there, and, in his romance of 'Kenilworth,' has peopled its desolate halls with the creatures of his genius, and made them the scene of events which, like many of his characters, are real and true in their outlines, but are filled up with only such strong similitudes of truth as might best serve the purposes of romance. The effect of such combinations, as we find them in 'Kenilworth,' is, that the work seems as a history to some readers, while others view it as history made romantic; and others as romance made historical. In the present instance, the effect has been to render thousands interested in a name which was formerly interesting only to antiquarians and architects; and to make many in all nations acquainted with some leading circumstances concerning a castle of the existence even of which they would scarcely otherwise have been aware. We are well content with this result. Separately from the beauty and interest of the romance itself, we hold it to be so great an advantage that multitudes should realize impressions (which are seldom contrary to truth) concerning historical places, persons, and circumstances, of which they would otherwise have had no impression at all, that none of the minor evils to the few who have subsequent occasion to discover that the writer dressed the facts, which he found naked, before he offered them to notice, are sufficient to neutralize it. Our present business is, however, not to expatiate on the claims of historical romances, but to state the real history of a place which has given name to one of the most interesting of them in our language.

The town of Kenilworth, which contains the remains of this magnificent castle, is situated in the county of Warwickshire, and is distant 95 miles N.W. from London, about five miles from Coventry, and nearly an equal distance from Warwick. The town probably owes its origin to the castle; and it does not appear that it ever attained to much importance. It now chiefly consists of one irregular street about a mile in length, and its population, by the last census, amounted to 3097 persons. It was an ancient demesne of the crown, and we are informed by Dugdale that, even in the Saxon times, it had within its precincts a castle which stood upon a place called Hom (Holme) Hill. Its origin was popularly attributed to a Saxon king of Mercia, of the name of Kenulph, and his son Kenelm, and this is countenanced by the name which the place bears. The common accounts, in the time of Elizabeth, as we learn from that entertaining personage Robert Laneham, consider this castle to be the same with that to which our present account refers; and a better informed person than Laneham gives a still earlier origin to the structure. In the 'Princely Pleasures of Kenilworth,' the castle is described as existing in the reign of King Arthur, and the Saxon king is only mentioned as repairing and improving the structure. The Lady of the Lake, in her address to Queen Elizabeth, says,—

"I am the Lady of this pleasant lake,
Who, since the time of great King Arthur's reign,
That here, with royal court, abode did make,
Have led a low'ring life in restless pain.
Till now that this your third arrival here
Doth cause me come abroad, and boldly thus appear.
For after him, such storms this castle shook,
By swarming Saxons first who scourged this land,
As forth of this my pool I ne'er durst look,
Though Kenelm, King of Merce, did take in hand
(As sorrowing to see it in deface)
To rear these ruins up, and fortify this place.
For straight by Danes and Normans all this isle
Was sore distress'd, and conquered at last.
Whose force this castle felt, and I therewhile
Did hide my head."

Whatever date be assigned to its origin, the castle, as Dugdale informs us, was certainly demolished in the wars between King Edmund and Canute the Dane. The present structure was not commenced until about a century later.

With regard to the name of the place, that which it at present bears is not, as usually happens, a corruption, but a restoration of the true form, which had been corrupted. In Queen Elizabeth's time it was always called Killingworth; but even Laneham was able to state that this was wrong, and that the correct form was Kenilworth. Dugdale agrees that the *kenil* must denote the name of some ancient proprietor; but as the name was anciently spelt Kenulworth, he hesitates to determine whether the name of that proprietor was Kenelm or Kenulph. The syllable *worth* is from the Saxon, signifying a mansion or dwelling-place, and the compound would therefore express Kenulph's (or Kenelm's) Place.

After the Conquest the demesne of Kenilworth remained with the crown until the time of Henry I., who gave it to a Norman named Geoffry de Clinton. Dugdale credits the accounts which describe him "to have been of very mean parentage, and merely raised from the dust by the favour of the said King Henry, from whose hands he received large possessions and no small honour, being made both Lord Chamberlain and Treasurer to the said king, and afterwards Justice of England: which great advancements do argue that he was a man of extraordinary parts. It seems he took much delight in this place, in respect of the spacious woods, and that large and pleasant lake (through which divers petty streams do pass) lying amongst them; for it was he that first built that great and strong castle here, which was the glory of all these parts, and, for many respects, may be ranked in a third place, at the least, with the most stately castles in England*."

Even in this its first state, Kenilworth Castle appears to have been of large space and great strength. This is shown by the extent, breadth, and depth of the outer moat, and by the ancient keep, called Cæsar's Tower, which, from its form and the extraordinary thickness of its walls, appears to have been of the first foundation. It was called Cæsar's tower, as Laneham conjectures, "rather as I have good cause to think, for that it is square and high, formed after the manner of Cæsar's Forts, than that ever he built it." A principal and often very ancient tower in many castles is called "Cæsar's."

Such a structure as Kenilworth Castle became a desirable acquisition to the Crown. It did not therefore long remain in the possession of the founder's descendants; but as the Clintons continued to possess the royal favour, and to live in prosperity and wealth after they no longer held the castle, it is probable that

* Dugdale's 'Warwickshire,' Thomas's edition, vol. i., p. 236.

it was relinquished to the king for some valuable consideration. However, we find in the 19th of Henry II. that it was possessed by the king, who placed a garrison there when his eldest son rebelled against him. The account of the provisions taken in for the use of the garrison is curious as shewing the value of money at that time. The following are the particulars:—One hundred quarters of bread corn, 8*l.* 2*s.* 2*d.* (little more than 2*d.* a bushel). One hundred quarters of barley 33*s.* 4*d.* One hundred hogs 7*l.* 10*s.* Forty cows, salted, 4*l.* One hundred and twenty cheeses 40*s.* Twenty-five quarters of salt 30*s.* For some time subsequent the interest connected with the castle arises chiefly from the accounts furnished by the sheriffs, who had the charge of it for the king, and gave in regular returns of the sums received and expended.

When Cardinal Ottoboni (afterwards pope under the name of Adrian V.) was sent to England by the pope, as legate, to endeavour to compose the differences between Henry and the barons, the king gave orders for Kenilworth Castle to be given up to Walter Gray, Archbishop of York, for the legate's use. It does not appear, however, that he occupied it, but appointed Richard de Gray to keep it for him. The great importance which the king attached to the castle is evident from the remarkable provisions in the letters patent by which, at a subsequent period (26 Henry III.), Gilbert de Segrave was constituted governor. His instructions were, "That he was to keep it only during the king's pleasure, and not to deliver it into the hands of any one but the king himself, so long as he lived: and that if the king should die during his custody thereof, to yield it to Queen Eleanor for the use of the king's heirs; but in case the said Queen could not come in person, that then he should not deliver it to any except to some of her uncles, to the use of the king's heirs who were not in league with the King of France." For the observance of these conditions Gilbert took a solemn oath on the Bible in the king's presence.

Not long after this, the king appointed the famous Simon de Montfort, Earl of Leicester, to be governor of the castle, and afterwards granted it for life to him and his wife Eleanor, who was the king's sister. This earl is stated to have "wonderfully fortified the castle, and stored with many kinds of warlike engines, till that time never seen nor heard of in England." The earl afterwards took a prominent part in the memorable revolt of the barons, the details of which, although of great importance in history, had little connection with Kenilworth. When, however, the barons were defeated at Evesham, in August, 1265, the earl and his eldest son were among the slain, and it became the scene of very important operations. The earl's eldest surviving son, Simon de Montfort, continued in the castle, into which he received those that fled from the battle, and the friends and followers of persons killed. Their daily increasing numbers, and their exasperation of mind in consequence of "the death of their kindred and familiars," gave great strength and confidence to Simon, who "sent abroad his bailiffs and officers like a king;—his soldiers spoiling, burning, plundering and destroying the houses, lands, and lordships of his adversaries, driving away their cattle, and imprisoning many, forcing them to what fines he pleased for their liberty."

This state of things continued until about midsummer, 1266, when the king, having become seriously alarmed for the consequences, determined to lay siege to the castle, and to that end marched with an army to Warwick, where he remained until he was joined by reinforcements from different parts of the country. Simon de Montfort, feeling that he should not be able to hold out long unless he could collect a force sufficient to raise the siege, left Kenilworth with the intention, it would seem, of going to France, though he does not appear to have gone farther than the Isle of Ely. He encouraged Henry de Hastings, whom he left governor in his absence, to make a stout defence, and assured him of timely relief. Meantime, Prince Edward surrounded the castle; and while he determined, if need were, to starve the garrison into a surrender, he took care that there should be abundance in his own camp. Among the items of provision, we find that the sheriff of Norfolk was commanded to cause 36 tuns of wine to be brought thither from Lynn.

The king, wishing to prevent the effusion of blood, sent to offer very favourable terms to the besieged; but, says Dugdale, "they did not only slight the king's offers, but maimed the messenger, and with much resolution defended themselves against all the assaults that were made, having engines that cast forth stones of great bigness, and making bold and frequent sallies, did very much mischief: neither could the sentence of Ottobon *, the pope's legate, who was there in the camp, nor the king's power, any whit daunt them."

The estates of the besieged having been confiscated by a parliament which had previously assembled at Winchester, the king, in the fear that this might render them desperate, caused a convention of the clergy and laity at Kenilworth, to reconsider this matter. The convention elected twelve nobles and bishops, to whom the final determination was referred. These persons held their meetings at Coventry, where they could be better accommodated than in the camp; and in due time produced the decree so well known in histories and records under the name of "Dictum de Kenilworth." It enacted that the parties in question might redeem their estates by a pecuniary fine proportioned to the nature of the offence, and payable to the persons then holding the forfeited estates. The fine was not to exceed five years' income of the estate, nor to be less than two years. The exceptions were—the Earl of Leicester, whose case was left undetermined; the Earl of Derby, who was to pay seven years' income of his lands; and Henry de Hastings, the governor of the castle, and those who maimed the king's messenger, who were to be imprisoned seven years, or submit to the king's pleasure. When this decree was communicated to the besieged, they refused to submit to it; "first, because they had no voice in choosing those who were makers of the decree; and secondly, for that they held the decree itself to be intolerable."

The king, being "much moved" at this reception of his conciliatory measure, determined to storm the castle. But about three weeks were necessary to enable the sheriff to collect the masons and other labourers who, with their hatchets, pickaxes, and tools, would be required in this service; and in the meantime the garrison began to suffer greatly, not only from want of provisions, but in consequence of a pestilential disease which raged among them, and of which many died. When the king heard of this he renewed his overtures, with assurances of kind treatment if they would surrender. In answer to this, they proposed that all acts of hostility should cease for the present, and that they should meantime be allowed to send to Simon de Montfort, to know whether he would relieve them by a fixed day or not; and, if he did not, they engaged to deliver up the castle. The king consented. But before the messengers despatched to Simon could return, the flux and other grievous diseases increased so much among the inmates of the castle, that those who had hitherto escaped were unwilling to hazard the infection, and having little hope that Montfort would be able to assist them, surrendered the castle to the king, on condition that the governor and all the inmates "should

* This was Ottoboni's second visit to England for the purpose of bringing the king and his barons to a good understanding.

have four days' time to carry out all their goods, and go freely away with horse, arms, and all accoutrements, throughout any part of the kingdom." Thus ended this memorable siege, which lasted full six months, and the whole history of which indicates the great strength of the place, which after all was overcome by disease and famine rather than by the forces of the king.

Very soon after the king had gained possession of the castle, he bestowed it upon his youngest son Edmund, Earl of Lancaster, who was also on this occasion created Earl of Leicester. At this time (7th Edward I.) Kenilworth Castle was made the scene of a splendid and costly festival, the chief promoter of which was Roger Mortimer, Earl of March, who was also the principal challenger in the tilt-yard. This personage appears to have been one of the most fashionable gallants of the time, and his own son Geoffery named him "The King of Folly." The meeting was called the "Round Table," from the banquetings being held, according to a then ancient custom, at a round table, that the harmony of the festival might not be disturbed by questions about precedence. A hundred knights and an equal number of ladies were present. The knights, many of whom came from foreign parts to be present on the occasion, amused themselves with tilting and other exercises of chivalry, and the ladies with dancing. It is recorded in the accounts of this festival, apparently as an extraordinary circumstance, that the ladies were clad in silken mantles. The Lady of the Lake, in her address to Queen Elizabeth, which we have already quoted, thus alludes to the transactions which we have recorded.

"The Earl Sir Mountford's force gave me no heart,
Sir Edmund Crouchback's* state, the prince's son,
Could not cause me out of my lake to part;
Nor Roger Mortimer's ruff, who first begun
(As Arthur's heir) to keep the Table Round,
Could not comfort my heart, or cause me come on ground."

Thomas, the son of Edmund, who succeeded his father in the possession of the castle, joined the barons against the favourites of Edward II., namely, Piers Gaveston and the two Spencers; and although the king once pardoned him and restored his forfeited lands, yet in 1322 he was taken in arms at the battle of Boroughbridge, and a few days afterwards was beheaded at Pontefract. The castle then became the property of the king, who, when he saw dangers thickening around him, sent orders to the constable to keep a sufficient garrison in the castle, intending to retire thither in the worst emergency of his fortunes. And indeed he then did become an inmate of Kenilworth—but it was as a prisoner. Having been seized in Wales by Henry, Earl of Lancaster, (brother and heir of Thomas,) and others, he was brought to this castle, and kept close prisoner, until the report that the deposed king was "too much observed and respected" at Kenilworth, occasioned his removal from thence to Berkeley Castle, where he was ultimately murdered. He was removed from Kenilworth in the night time, by Sir Thomas Berkeley and Sir John Maltravers, who, in an open field between this place and Warwick, are said to have set him down on the bare ground, and shaved him with dirty water out of a neighbouring ditch. Horace Walpole, observing that this king is represented with a "longish beard" on his monument at Gloucester Cathedral, and knowing that such beards were commonly worn at the time, is inclined to reject the anecdote which describes him as having been shaven on this occasion. But if Walpole had referred to Stowe's account of the transaction, he would have found that it resulted from the very custom which seemed to him to render it doubtful. Stowe gives as his authority Thomas de la More, "a worshipfull knight that then lived, and wrote in the French tongue what he saw with his eyes, or heard credibly reported by them that saw, and some that were actors." He says, "Devising to disfigure him that hee might not bee knowne, they determine for to shave as well the haire of his head as also of his beard; wherefore, as in their journey they travailed by a little water which ranne in a ditch, they commanded him to light from his horse to be shaven, to whome, being set on a moale hill, a barbar came unto him with a bason of colde water taken out of the ditch, to shave him withall, saying unto the king, that that water would serve for that time. To whome Edward answered, that would they, noulde they, he would have warme water for his beard; and to the end that he might keepe his promise, he began to weepe, and to shed teares plentifully."

After the death of Edward, Henry Earl of Lancaster, lately mentioned, was restored to his brother's possessions, and from him Kenilworth Castle descended, through his son and grand-daughter, to the famous John of Gaunt, Duke of Lancaster. The Duke greatly improved and enlarged the castle. It seems indeed that, with the exception of Cæsar's Tower, the outer walls, and the turrets towards the east end, all that now remains was built by him, and has always borne the name of Lancaster's Buildings. Dugdale finds that, in the 15th of Richard II., "the king did appoint John Deyncourt, then constable hereof and his lieutenant, as also Robert de Skyllington, mason, to hire diggers of stone, carpenters, and labourers, to the number of xx persons; and to provide stone, timber, tile, and all other necessaries, for the use of the said Duke in his buildings here."

When John of Gaunt's son, Henry Bolingbroke, became king, his possessions as Duke of Lancaster were united to the crown. Kenilworth therefore remained a royal property without interruption until the reign of Elizabeth.

We are informed by Stowe, on the authority of Thomas de Elmham, that King Henry V. "kept his Lent in the castle of Kenelworth [Anno 1414], and caused an harber there to be planted in the marish, for his pleasure, among the thorns and bushes, where a foxe had harbored, which foxe he killed, being a thing thought to prognosticate that he should expell the craftie deceite of the French king; besides which hee also there builded a most pleasant place, and caused it to bee named *Le Plesant Maris*, or The Pleasant Marsh. * * * In this Lent season, whilst the king lay at Kenelworth, messengers came to him from the Dolphin of France, named Charles, with a present of Paris balles, for him to play withall; but the king wrote to him that hee would shortly send to him London balles, with the which he woulde breake down the roofes of houses."

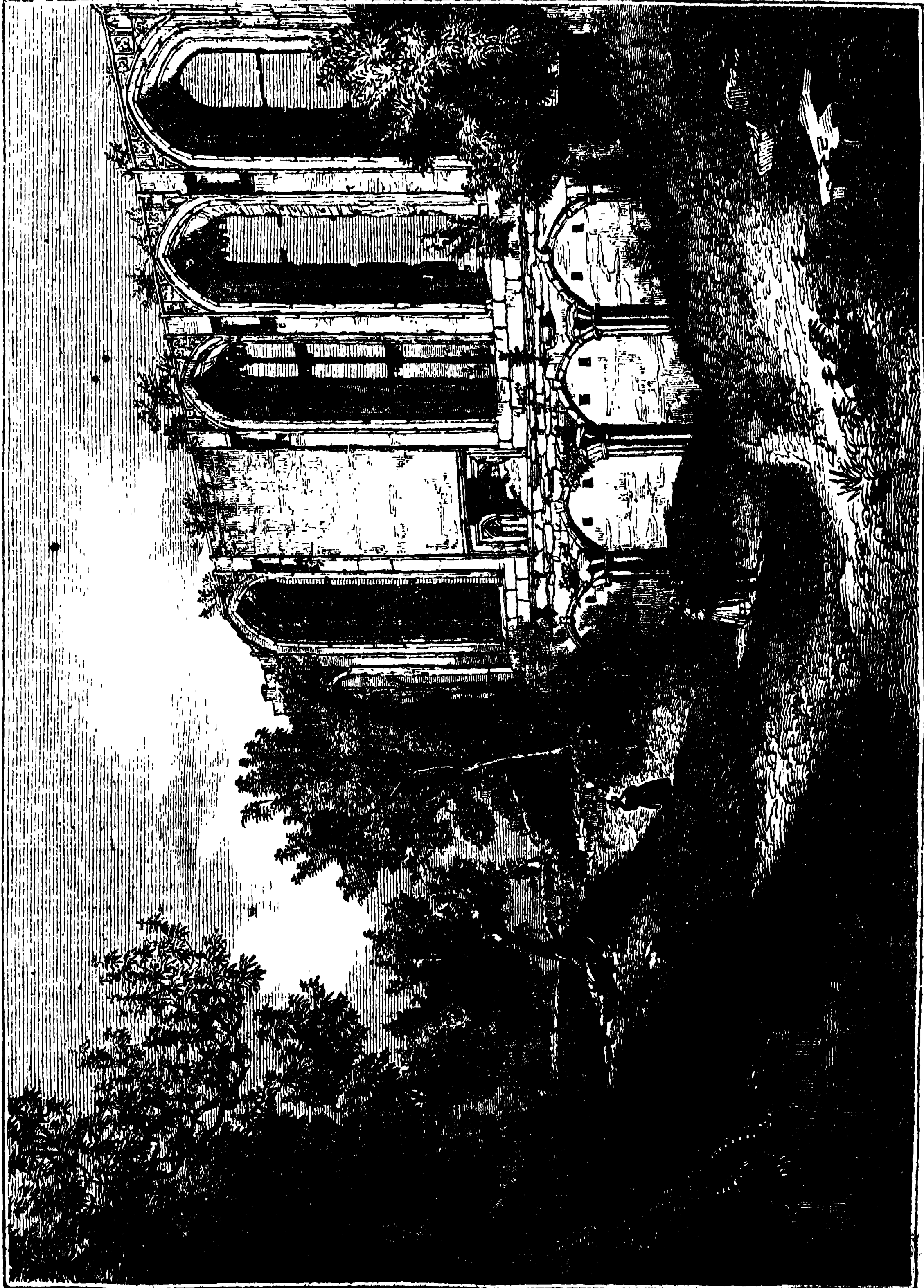
Henry VIII. incurred considerable expense in repairing and altering the castle. Among other works, he caused the banqueting-house, erected by Henry V., to be taken down, and part of it to be rebuilt in the base-court of the castle near the Swan Tower

After this, nothing particular occurs in the history of the castle until the time of Queen Elizabeth, who, in the fifth year of her reign, bestowed it upon Robert Lord Dudley, her favourite, whom she soon after created Baron of Denbigh and Earl of Leicester. From him the castle of Kenilworth and the surrounding domain received most extensive additions and alterations, which are said to have cost him no less than 60,000*l.*,—a prodigious sum to be so applied at that period. His principal works consisted in the erection of the grand "Gatehouse" on the north side; for, after having filled up a part of the moat on that

* So called, not from any personal deformity, as some state, but because he wore on his back a cross, (anciently called *crouch*) as having vowed a voyage to the Holy Land. The Crouched or Crutched-Friars were similarly so called from wearing a cross on their garments.

side, he made the principal entrance from the north, instead of the south, as it had been before: he also erected a large mass of square rooms, at the south-east angle of the upper court, called "Leicester's Buildings," and built from the ground two handsome towers at the head of the pool. The one called the "Flood Gate," or "Gallery Tower," stood at the end of the tilt-yard, and contained a spacious and noble room, from whence the ladies might conveniently see the exercises of tilting and other sports. The other was called "Mortimer's Tower," either, as Dugdale thinks, after one that stood there, and in which Lord Mortimer lodged at the Round Table festival, or else because Sir John Mortimer was confined there when a prisoner in the reign of Henry VI. Leicester also greatly enlarged the chase. Although his works are of the most recent date, they have the most ancient and ruined appearance, having been built of a brown friable stone, not well calculated to stand the weather.

Sir Walter Scott has given a short description of the appearance which the castle presented in this its most perfect state. This account appears to have been drawn from a comparison of the description given by Laneham with the details in the survey made in the reign



[Great Hall, Kenilworth.]

of James I., and with the actual remains of the castle. We may very suitably introduce it here.

"The outer wall of this splendid and gigantic structure enclosed seven acres, a part of which was occupied by extensive stables, and by a pleasure garden with its trim arbours and parterres, and the rest forming the large base-court or outer yard of the noble castle. The lordly structure itself, which rose near the centre of this spacious enclosure, was composed of a huge pile of magnificent castellated buildings, apparently of different ages, surrounding an inner court, and bearing in the names attached to each portion of the magnificent mass, and in the armorial bearings which were there blazoned, the emblems of mighty chiefs who had long passed away, and whose history, could ambition have bent ear to it, might have read a lesson to the haughty favourite who had acquired and was now augmenting this fair domain. A large and massive keep, which formed the citadel of the castle, was of uncertain though great antiquity. It bore the name of Cæsar, probably from its resemblance to that in the Tower of London so called. * * * * The external wall of this royal castle was, on the south and west sides, adorned and defended by a lake, partly artificial, across which Leicester had constructed a stately bridge, that Elizabeth might enter the castle by a path hitherto untrodden, instead of the usual entrance to the northward, over which he had erected a gatehouse or barbican, which still exists, and is equal in extent and superior in architecture to the baronial castle of many a northern chief. Beyond the lake lay an extensive chase, full of red deer, fallow deer, roes, and every species of game, and abounding with lofty trees, from amongst which the extended front and massive towers of the castle were seen to rise in majesty and beauty*."

Queen Elizabeth visited the Earl of Leicester at Kenilworth in the years 1566, 1568, and 1575. The two first visits were attended with no great ceremony or expense; but the last so far eclipsed in splendour and profuse expense anything of the kind that had ever been known in this country, that it has been thought worthy of being noticed in the annals of the country, and has been immortalized by "the Author of Waverley." We have two contemporary accounts of this great festival. The one is entitled: —'The Princelye Pleasures at the Courte at Kenelworth. That is to say; the Copies of all such Verses, Proses or Poeticall inuentions, and other deuices of pleasure as were there deuised by sundry Gentlemen, before the Qvene's Maiestie: in the year 1575.' This was first printed in 1576, and was prepared by George Gascoigne, who wrote most of the speeches and verses which it contains. It has been several times reprinted: the last edition, published at Warwick in 1824, gives a modernized orthography of this as well as of Laneham's 'Letter,' which is published together with it. The other work is entitled:—'A Letter: whearin part of the Entertainment untoo the Queenz Maiesty, at Killingwoorth Castl in Warwik Sheer, in this Soomerz Progress, 1575, iz signified: from a freend officer attendant in the Coourt, unto his freend a Citizen and Merchaunt of London.' This "officer attendant" was Richard Laneham, "clerk of the Council Chamber door, and also keeper of the same," whom Sir Walter Scott has introduced in his romance. The letter is full of affectation and conceit, with many lame attempts at wit; but the writer was evidently a man of some general acquirements, and his letter gives much information illustrating the tastes and manners of the times. It has been quite as often reprinted as the 'Princely Pleasures.' In endeavouring to give our readers some idea of the festival at Kenilworth, we shall avail ourselves of both productions, adopting the modernized spelling as given in the Warwick edition, but also recurring to earlier editions, particularly those in Mr. Nichols's "Progresses of Queen Elizabeth," and in the fine work entitled 'Kenilworth Illustrated,' published at Coventry in 1821; to both of which valuable notes are annexed.

Every preparation on the part both of the queen and the earl having been completed, the queen dined at Ichington, about seven miles from Kenilworth, on Saturday, July 9, 1575. After dinner she set out for Kenilworth, attended by Leicester and a splendid retinue. There was hunting by the way, so that they did not arrive at the castle till eight o'clock in the evening. On approaching to it the queen was accosted by a sibyl, "comely clad in a pall of white silk," who came out of an arbour in the park, and, in a poetical address, expressed the delight her arrival gave, and prophesied that she should enjoy a long and prosperous reign. The following promise was most to the purpose:—

"And whiles your highness here abides
Nothing shall rest unsought,
That may bring quiet to your mind
Or pleasure to your thought."

On arriving at the first gate, six gigantic trumpeters appeared upon the battlements with trumpets of proportionate size with which they seemed to sound. This was only "seeming," however, for the giants were artificial; but real trumpeters were concealed behind them to perform their office for them. The intention of this was to denote that in the times of King Arthur, whose name was mixed up largely with the various entertainments, men were of the stature of these puppets. The actual porter was, however, a real giant, "tall of person, big of limb, and stern of countenance, wrapped also all in silk, with a club and keys of quantity according: whereby (as her highness was come within his ward) he burst out into a great pang of impatience to see such uncouth trudging to and fro, such riding in and out, with such din and noise of talk, within the charge of his office*." He attempted at first to prevent their entrance; "but yet, at last, being overcome by view of the rare beauty and princely countenance of her majesty, yielded himself and his charge, presenting the keys to her highness †." His changing emotions are expressed in an address in verse which he delivered on the occasion.

When the queen had entered the gate and came into the base-court, she was met by the Lady of the Lake, who, attended by two nymphs arrayed in silk, floated towards her from the middle of the pool upon a moveable island, blazing with torches. In a poetical address, part of which we have already quoted, she spoke of the history of the castle, and said, since King Arthur's time, she had remained concealed, and confined her care to the lake, but now she felt it her duty to discover herself, and surrender her trust to the queen; concluding with

"Pass on, Madam, you need no longer stand,
The Lake, the Ladye, the Lord, are yours now to command."

The queen, then proceeding towards the inner court, passed over a bridge, which was railed on both sides. To each pair of posts, of which there were seven, at the distance of twelve feet from each other, presents were attached, appropriate to the several deities by whom they were supposed to be offered to the queen, as was explained to her in Latin verse by an actor clad like a poet. The queen proceeding into the inner court, was received with "sweet music;" where she alighted from her palfrey, and mounted the stairs to her apartment amidst the sound of drums, fifes, and trumpets, the firing of guns, and a grand display of fireworks; "the

* 'Kenilworth,' vol. ii., p. 330-332. 1821.

* Laneham. † Gascoigne.

noise and flame of which were heard and seen twenty miles off," according to Laneham.

The following day was Sunday, and the reader will be curious to know how it was spent on this great occasion. Laneham says:—"On Sunday, the forenoon occupied as for the sabbath-day in quiet and vacation from work, and in divine service and preaching at the parish-church: the afternoon in excellent music of sundry sweet instruments, and in dancing of lords and ladies and other worshipful degrees, uttered with such lively agility and commendable grace, as whether it might be more strange to the eye, or pleasant to the mind, for my part indeed I could not discern; but it was exceedingly well, methought, in both." Gascoigne informs us, more intelligibly than Laneham, how the evening was spent:—"There were fireworks showed upon the water, which were both strange and well executed; as sometimes passing under the water a long space, when all men thought they had been quenched, they would rise and mount out of the water again, and burn very furiously until they were utterly consumed."

Monday being a hot day, the queen kept within doors till five o'clock in the evening, when she went out to "hunt the hart of force." On her return, "there came roughly forth *Hombre Salvagio* [*i.e.*, a savage man], with an oaken plant, plucked up by the roots, in his hand, himself foregrown all in moss and ivy; who, for personage, gesture, and utterance beside, countenanced the matter to very good liking; and had speech to effect:—'That continuing so long in these wild wastes, wherein oft had he fared both far and near, yet happed he never to see so glorious an assembly before: and now cast into great grief of mind, for that neither by himself could he guess, nor knew where to be taught, what they should be, or who have estate. Reports some had he heard of many strange things, but broiled thereby so much the more in desire of knowledge. Thus in great pangs bethought he, and called upon all his familiars and companions, the fauns, the satyrs, the nymphs, the dryades, and the hamadryades; but none making answer, whereby his care the more increasing, in utter grief and extreme refuge called he aloud at last after his old friend Echo, that he wist would hide nothing from him, but tell him all if she were here*.'" We are informed in the 'Princely Pleasures' that the verses of this savage "were devised, penned, and pronounced by Master Gascoigne; and that (as I have heard credibly reported) upon a very great sudden." We give a verse or two from the Dialogue with Echo by way of specimen:—

"Well, Echo, tell me yet,
How might I come to see
This comely Queen of whom we talk?
Oh, were she now by thee!"
Echo.— "By thee."

"By me? oh were that true,
How might I see her face?
How might I know her from the rest,
Or judge her by her grace?"
Echo.— "Her grace."

"Well, then, if so mine eyes
Be such as they have been,
Methinks I see among them all,
This same should be the Queen."
Echo.— "The Queen."

Upon this the "salvage man" fell upon his knees before the queen, and delivered a characteristic but flattering address. Laneham informs us of a circumstance which must have mortified Gascoigne, who makes no mention of it. "I shall tell you, Master Martin, by the mass, of a mad adventure.—As this savage, for the more submission, broke his tree asunder, and cast the top from him, it had almost light upon her highness's horse's head; whereat he startled, and the gentleman was much dismayed. See the benignity of the prince: as the footman looked well to the horse, and he of generosity soon calmed of himself,—'No hurt, no hurt,' quoth her highness. Which words, I promise you, we were all glad to hear, and took them for the best part of the play."

* Laneham.

What we have given must suffice as specimens of entertainments, which seem to us, at this day, sufficiently tasteless and insipid. Warton remarks, with reference to these classical pageants:—"The books of antiquity being familiarized to the great, everything was tinctured with ancient history and mythology. The heathen gods, although discountenanced by the Calvinists, on a suspicion of their tending to cherish and revive a spirit of idolatry, came into general vogue. When the queen paraded through a country town, almost every pageant was a pantheon. When she paid a visit at the house of any of her nobility, at entering the hall she was saluted by the Penates, and conducted to her privy chamber by Mercury. Even the pastry-cooks were expert mythologists. At dinner, select transformations of Ovid's metamorphoses were exhibited in confectionary; and the splendid iceing of an immense historic plumb-cake was embossed with a delicious basso-relievo of the destruction of Troy. In the afternoon, when she condescended to walk in the garden, the lake was covered with Tritons and Nereids: the pages of the family were converted into wood-nymphs, who peeped from every bower; and the footmen gamboled over the lawns in the figure of satyrs*." Pageantry of this sort began to gain ground in the reign of Henry VIII., and gradually superseded those in which saints, prophets, and apostles were the actors; religious canticles and texts of scripture, delivered by personified doctors of the church, similarly giving place to profane poetry, classic translations, and occasional verses and exhortations delivered by the representatives of heathen divinities. These pageants may therefore be regarded as evidences of the national familiarity with classical learning: and they were useful, at the time, for what Warton says of the ancient 'Mysteries,' is still more true of these classical pageants: "They had their use in abolishing the barbarous attachment to military games, and the bloody contentions of the tournament, which had so long prevailed as the sole species of popular amusement. Rude, and even ridiculous as they were, they softened the manners of the people, by diverting the public attention to spectacles in which the mind was concerned, and by creating a regard for other arts than those of barbarous strength and savage valour †."

The rest of the seventeen days' festivities at Kenilworth we must give in the brief summing up of Dugdale. "For the several days of her stay, various and rare shows and sports were there exercised, viz., in the chase, a savage man with satyrs: bear-baitings, fire-works, Italian tumblers, a country brideall, with running at the quintain, and morrice-dancing. And that there might be nothing wanting that these parts could afford, hither came the Coventry men, and acted the ancient play, long since used in that city, called Hock Tuesday, setting forth the destruction of the Danes in King Ethelred's time; with which the Queen was so pleased that she gave them a brace of bucks, and five marks in money to bear the charges of a feast. Besides all this, they had upon the pool a Triton riding on a mermaid eighteen feet long; as also Arion on a dolphin's back, with rare music." He then goes on to state that five gentlemen were knighted; and adds that the expenses of the festivities may be estimated from the single item of beer, of which not less than 320 hogsheads of the ordinary sort were consumed.

The Earl of Leicester continued to reside occasionally

* History of English Poetry, sect. 43. † Ibid., vol. ii., sect. 9.

at Kenilworth until his death in 1588. He died without acknowledged legitimate issue; and devised the castle to his brother, the Earl of Warwick, for life, after which it was to be inherited by Sir Robert Dudley and his heirs. This Sir Robert Dudley appears to have been Leicester's son by an unacknowledged marriage with Lady Sheffield; and when his uncle died, he resided at Kenilworth, and adopted proceedings to establish his legitimacy. He was opposed by the powerful friends of the lady whom Leicester had publicly married during the lifetime of Lady Sheffield. It was difficult to prove the fact of a marriage which had so long been kept secret; and the House of Lords, indeed, brought the cause to an abrupt termination, directing the depositions to be sealed up, and no copies taken but by the king's order. Disgusted at this arbitrary measure, Sir Robert left England for Italy, having obtained leave to travel for three years. The friends of Leicester's acknowledged widow, bent upon his ruin, procured a summons for his return, which not being obeyed, the castle and lands of Kenilworth were seized on for the king's use. A survey of it was then made, by which it appears that the area within the walls was seven acres. The castle and four gatehouses were all built of freestone, the walls varying from four to fifteen feet in thickness; and the outer walls being "so spacious and fair, that two or three persons may walk together upon most places thereof." The rooms are described as being "of great state within the same, and such as are able to receive his Majesty, the queen and prince at one time, built with as much uniformity and conveniency as any houses of later time; and with such stately cellars, all carried upon pillars and architecture of free-stone carved and wrought, as the like are not within this kingdom *, and also all other houses for offices answerable." The parks and chases were valued at 1200*l.* per annum, "900*l.* whereof are grounds for pleasure." Concerning the woods, it is said:— "There joineth upon this ground a park-like wood, called the King's Wood, with fifteen several copses, containing altogether 789 acres within the same, which, in the Earl of Leicester's time, were stored with red deer, since which time the deer have strayed; but the ground is in no sort blemished, having great store of timber and other trees of much value upon the same." The pool, which has been so frequently mentioned, contained 111 acres: it was well stored with fish and fowl, and its water could "be let around the castle at pleasure." The circuit of the whole domain was about "nineteen or twenty miles, in a pleasant country, the like both for state, strength and pleasure not being within the realm of England." The total value of the property was estimated at 38,554*l.*, being 16,431*l.* in lands; 11,722*l.* in woods; and 10,401*l.* for the castle.

The king's eldest son, Henry, took a fancy to the castle "as the most noble and magnificent thing in the midland parts of this realm;" yet, with that gentlemanly feeling for which he has obtained much praise, was unwilling to occupy the premises without something like compensation to the ejected owner. He therefore entered into a treaty with Sir Robert Dudley for obtaining a right to the property by purchase from him: 14,500*l.* was the sum agreed to be paid, besides which Sir Robert was to hold the office of Constable of the castle during life. This was in 1611; and the prince died the next year, when only 3000*l.* of the above amount had been paid; and even this sum was never received by Sir Robert Dudley, it having been paid for him to a merchant who failed†. Prince Charles (afterwards Charles I.) then took possession as heir to his brother, without feeling bound to pay the balance of the purchase-money. As Sir Robert's wife, however, had a jointure on the estate, he obtained a special Act of Parliament to enable her to alienate it; which she did to him for the sum of 4000*l.* in the year 1621.

Kenilworth Castle afterwards shared the disastrous fortunes of its royal owner. After his death, Cromwell gave the whole property to certain officers of his army, who demolished many parts of the castle and dismantled it of its most valuable materials, which were sold: they also drained the great pool, cut down the woods, destroyed the parks and chase, and divided the land into farms among themselves. After the Restoration, Charles II. gave the property to Sir Edward Hyde, whom he created Baron Kenilworth and Earl of Clarendon; and, through the eldest surviving daughter of the last earl of that family, it has descended to the present Earl of Clarendon.

For a long period decay was suffered to extend the ruin which Cromwell's officers commenced. The further progress of the devastation was, however, arrested by the present Earl of Clarendon; and if this most magnificent ruin be now left to the slow inroads of time, it is likely to remain a monument of baronial grandeur which many future ages may contemplate.

The historical statements into which we have entered, as likely to be most generally interesting to our readers, leave us no room for a detailed account of the ruins, which is the less necessary as the preceding account includes much information concerning the progress of the castle and its appearance when completed. Our first wood-cut is a view of the castle from the east, comprehending Cæsar's Tower and Leicester Buildings. These were formerly connected by "Sir Robert Dudley's Lobby" and "Henry VIII's Lodgings," which being now levelled to the earth allow the Great Hall to be seen in the background. The other wood-cut is a larger view of the Great Hall. The steps which led to the beautiful portal of this magnificent apartment are now fallen down and removed. The interior of the Hall shows an undercroft of six arches in length and three in breadth, originally bearing a groined roof. The undercroft, appropriated to military and domestic stores, is lighted by loopholes only, of rather singular construction. The pillars and groining, spoken of with so much admiration in the 'Survey,' are represented in our cut, and must not be mistaken as belonging to the hall above, whose roof was supported by trusses of timber, the holes of which are to be seen between the windows. The dimensions of the Hall are about ninety feet by forty-five, which with the latter measure for height would give a double cube, an admired proportion among ancient builders. The windows, though bereft of their glass and most of their tracery, still appear graceful in outline, and must once have been exceedingly beautiful.

We may appropriately conclude this account with a passage from the romance of 'Kenilworth:'—

"We cannot but add, that of this lordly palace, where princes feasted and heroes fought, now in the bloody earnest of storm and siege, and now in the games of chivalry, where beauty dealt the prize which valour won, all is now desolate. The bed of the lake is but a rushy swamp; and the massy ruins of the castle only serve to show what their splendour once was, and to impress on the musing visitor the transitory value of human possessions, and the happiness of those who enjoy a humble lot in virtuous contentment."

* This refers [illegible] e Great Hall.—See the wood-cut.

† Sir Robert [illegible], [illegible] ability and attainments, never returned to [illegible] gl[illegible] treated with much consideration abroad, a[illegible] 's [illegible] the emperor [illegible]

*** The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

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CHINA.—No. I.

The Cities of China.



[North Gate of Pekin.]

There is perhaps no remote country, unconnected with us by the ties of subjection or alliance, concerning which so much curiosity has been felt as concerning China. This results from a combination of such various circumstances as can be applicable to no other country; and which therefore renders our interest about China quite a peculiar feeling. China stands alone among the nations; and this is not so much a consequence of that restrictive policy by which the government so sedulously checks the intercourse with strangers, as a result of the character, habits, and institutions, by which the Chinese are more palpably distinguished from *all* other nations claiming to be civilized, than any two of the least approximating of these nations are distinguished from each other.

This is alone sufficient to awaken our interest and curiosity concerning so singular and remote a nation. But there is much more than this to draw our attention towards it. The remote antiquity which it claims, and which seems to render it the oldest of existing nations, makes us anxious to investigate the details of that condition to which it has been brought by a civilization which dates from more ancient times, and has been less interrupted than any other. The knowledge that the energy of comparatively recent impulses has carried us much beyond this old nation in the ways of civilization, mingles something of self-complacency with the interest with which we regard a people who seem almost exempt from the influence of those circumstances which work change in all things, and who do not at present appear to differ much from what they were at the time when our own forefathers were naked savages roaming in the wilderness, and contending for their food with the wolves and the hyænas. Our curiosity concerning the Chinese has been all the more stimulated by the anxiety with which they have laboured to exclude strangers from their country, and the consequent difficulty of acquiring that knowledge concerning them which it seemed desirable to obtain. Our own country, in the common and daily use of tea, has adopted in the most decided manner one of the most prominent habits of the Chinese, for the gratification of which it still depends upon China, and maintains with it an extensive commercial intercourse. It is our impression that most of our readers will be glad to become acquainted with China as the country to which all the above considera-

tions apply,—to which we are indebted for that refreshing beverage which has wrought a great alteration in our own domestic usages,—which so nearly adjoins the British dominions in the East,—and in which a more than ordinary interest is at present felt in consequence of the opening of the tea-trade and the recent transactions at Canton. It is therefore our intention, at short intervals, to furnish a series of papers, in which it will be endeavoured to combine, under distinct heads, the substance of the best and most interesting information concerning China and the Chinese people which has hitherto been presented to the public. We begin with a description of the cities.

The cities of China are divided into classes, and the distinction is nicely and precisely marked by the last syllable of their names, which is in fact a distinct monosyllabic word, indicating their size, rank, and municipal jurisdiction or dependance. These monosyllables, one or the other of which is found at the end of the name of every city, are *fû* or *fou*, *cheu*, and *hien*. *Fû* denotes a city of the first class, having under its jurisdiction a certain number of cities of the two inferior classes. *Cheu* denotes a city of the second class, subject to the jurisdiction of its *Fû;* and *Hien*, a city of the third class, subordinate to its *Cheu*, as well as under the jurisdiction of its *Fû*. The study of geography might be considerably facilitated if this practice of the Chinese were general, and every nation, by a simple affix to the names of their cities and towns, would thus explain at one glance their relative rank or importance.

According to Father Le Comte, there were in his time more than 160 cities of the first class, 270 cities of the second class, and upwards of 1200 of the third, besides a number of walled towns no included in any of these classes.

As the cities of China generally have a strong resemblance (which in most cases approaches monotony) to each other, we need only describe a few of the principal. But, before doing this, we may mention the main features that are common to them all. The cities of China are formed on a regular plan, which is square whenever the situation and nature of the ground will admit. They are all enclosed by high walls, with large gates of more strength than beauty. Towers, which vary in elevation, but which are sometimes eight or nine stories high, and in form sometimes round, but more commonly hexagonal or octagonal, are built at regular distances; and, when practicable, a wide ditch, filled with water, surrounds the whole. The streets are in straight lines; the principal of them are about thirty feet wide, but the houses are meanly built, having rarely more than one story above the ground-floor; so that the width of the streets, though not too much for the thronging population and bustle of a Chinese town, conduces but little to beauty or effect. The shops are adorned with silks, porcelain, and japanned wares, the most brilliant of which are hung outside the door to attract customers, and (the practice being universal) give the main streets a gay and somewhat of a theatrical appearance. A large board is suspended from the front of each shop; it is either gilt, or painted with some bright colour and varnished, or some fanciful sign, with the names of the principal articles sold in the shop inscribed upon it. These showy sign-boards, placed at equal distances on both sides the streets, give the whole extent the appearance of a long colonnade, rather curious than beautiful.

Among the descriptions of Marco Polo, we may refer to those of Kin-sai, or Hang-cheu-fu, and Ta-Tu, or Pekin.

The first of these, *Kin-sai*, a name which signifies "the Celestial City," he extols as being "pre-eminent to all other cities in the world in point of grandeur and beauty, as well as from its abundant delights, which might lead an inhabitant to imagine himself in paradise." It was then said to be a hundred *li* * in circuit, with streets broad and extensive, and squares or market-places of prodigious size, proportionate to the immense population. It was situated between a lake of sweet transparent water and a river of great magnitude, and traversed in every possible direction by canals, large and small, which carried with them all the filth of the city into the lake, and finally into the sea. These canals were traversed by almost innumerable bridges, without which there could have been no land-communication from one place to another. Those thrown over the principal canals, and connecting the main streets of the city, had arches so lofty and so well built that vessels could pass under them without striking their masts, while carts and horses were passing over them.

The second of these, or Peking, he described as perfectly square. Each side was six miles in length, making altogether an extent of twenty-four miles. The walls were such as have just been described as common to the Chinese cities, but Marco Polo adds, that all the battlements were kept white. The whole plan of the city was laid out by line, and the streets were so straight, that when a person ascended the wall over one of the gates, and looked before him, he could see the gate opposite to him, on the other side of the city. The allotments of ground were square, and exactly in a line with each other, each allotment allowing room for houses, with corresponding courts and gardens. One allotment was assigned to each head of a family. "In this manner," continues the Venetian traveller, "the whole interior of the city was disposed in squares, so as to resemble a chess-board, and planned out with a degree of precision and beauty impossible to describe." Twelve gates, three on each side of the square, gave ingress to and egress from the city, and each gate had a guard of 1000 men. In the centre of the whole rose a lofty tower, or belfry, and when its bell, which was sounded regularly every night, had struck its third stroke, no one could be found in the streets with impunity, unless upon some urgent occasion,—such as to call assistance to a female in labour, or to a person suddenly attacked with sickness, and even then it was necessary to carry a light. To escape detection was difficult, for strong parties of the guards continually patrolled the streets during the night. Those seized without having lights and imperative motives for being abroad after the third bell, were carried the next morning before the magistrates, and punished with a greater or less number of strokes of the bamboo, according to circumstances. The suburbs beyond the gates, in extent and population, if they did not exceed, equalled the city. Here were situated the hotels or caravanserays for the abode of merchants arriving from different parts; and, as has been practised in Turkey up to our days, the people from one province or kingdom were not mixed up with those from another, but each class had their separate caravanseray, where they lived among themselves.

The first of these cities, which was once the capital of southern China, and, at the time of Marco Polo, the residence of the imperial court, has much declined since then, and has had its name changed. As *Hang-cheu-fu*, it is, however, described by modern travellers as a place of immense extent, intersected by numerous canals, and still containing an overflowing population. The streets, though narrower, are paved as they were in the days of the Venetian traveller; now, as then, there are guards placed by night at the top of the lofty bridges, and on mounds, or towers, to watch the breaking out of any fire, and to give and procure all the assistance necessary in a place where every house is built of wood. And on the outside of every house, its

* A *li* is equal to 632 English yards.

occupant is obliged to hang a scroll, or writing, containing the name of each individual of his family, whether male or female. "When any person dies, or leaves the house," says Marco Polo, "the name is struck out, and upon the occasion of a birth it is added to the list. By these means, the great officers of the provinces and governors of the cities are at all times acquainted with the exact number of the inhabitants." It is to be observed that this last ancient regulation, as well as that of the fire-police, is common to all the great Chinese cities. As to the beauty and transparency of the lake on which Kin-sai, or Hang-cheu-fu is situated, and the pleasantness of its neighbourhood, all modern travellers are agreed. The lake and the gay scenes that occur upon it have been more particularly praised. Staunton describes it as a beautiful sheet of water, perfectly pellucid, and surrounded by an amphitheatre of picturesque mountains. Du Halde says, its banks are ornamented with country-houses, temples, and Bonze-monasteries, and Mr. Barrow was agreeably struck by the vast number of yachts and barges sailing to and fro on the bosom of the lake, "all gaily decorated with paint and gilding, and streaming colours, the parties within them apparently all in pursuit of pleasure." Lord Macartney, after mentioning that he was upwards of two hours in passing through the city, which he found more extensive and more populous than he had imagined—that it was very closely built, having narrow streets, paved with broad flat stones, which reminded him of the courts in London—that almost every house was a shop, and that he observed in some of these shops great quantities of furs, broad cloth, and long ells, mostly imported in English bottoms to Canton, adds, "the environs of the town are very beautiful, embellished by an extensive lake, a noble canal, with many inferior ones, and gentle hills, cultivated to the summit, interspersed with plantations of mulberries, and dwarf fruit-trees, sheltered by oaks, planes, sycamores and camphors. On one side of the lake is a pagoda in ruins, which forms a remarkably fine object. It is octagonal, built of fine hewn stone, red and yellow, of four entire stories, besides the top, which was mouldering away from age: very large trees were growing out of the cornices: it was about 200 feet high. It is called the tower of the Thundering Winds, to whom it would seem to have been dedicated, and is supposed to be 2,500 years old."

The present state of the metropolis of China will be described in a future Number.

THE FOSSIL ELK OF IRELAND.

(*Cervus megaceros.*)

Among the fossil relics which our British Islands afford, none are more interesting than those of a species of elk now extinct, which once abounded in the localities where its remains are discovered. The interest which attaches to the remains of the animal we propose to examine, does not arise from the circumstance of the vaguely-remote epoch in which it existed, nor from its having witnessed, when it existed, a condition of the earth's surface unlike any thing at present, changed by some contemporary catastrophe, the first of many which have succeeded;—on the contrary, the interest we feel is from the circumstance that its relics indicate a condition of things in our latitudes precisely similar to what now obtains,—that the date of its extinction is, geologically speaking, very recent,—that in all probability it was coeval with man, and formed one of the objects of chase to the savage hunter in a thinly-peopled country. If we be right in these conjectures, the bones of the *fossil elk* will belong to a later epoch than most of the mammalia whose fossil relics have been yet discovered.

In the cave at Kirkdale in Yorkshire, (the cave being a natural fissure in a rock of *oolite*, a sort of limestone, which abounds with *corals* and portions of *echini* throughout its substance,) Dr. Buckland found the fossil relics of twenty-two species of animals, principally mammalia: viz., of *Carnivora*, the hyæna, tiger, bear, wolf, fox, weasel, and an unknown animal about the size of a wolf;—of *Pachydermata*, the elephant, rhinoceros, hippopotamus, and horse;—of *Ruminantia*, the ox, and three species of deer;—of *Rodentia*, the rabbit, water-rat, and mouse;—of *Birds*, the raven, pigeon, lark, and a small species of duck. The relics of these animals (consisting of their bones and teeth) were covered by a layer of fine mud, spread over the floor of the cave, which, on the removal of the mud, "was found to be strewed all over, like a dog-kennel, from one end to the other," with hundreds of teeth, and "broken and splintered fragments of bones of all the animals above enumerated." * * * "Those of the larger animals, elephant and rhinoceros, were found coextensively with all the rest." Many had evidently been gnawed, and exhibited teeth-marks which fitted the canine teeth of the hyæna that occur in the cave, and which appears to have been a third larger than any species now existing. Every circumstance, indeed, conspired to prove that this cave had long been the unmolested resort of these ferocious animals, which had dragged in the smaller animals whole, the larger piecemeal, in order to devour them at leisure,—nay, that they often devoured each other.

The coeval existence in our island (and we may add on the adjacent continent of Europe, as the caverns of Gailenreuth, Muggendorf, Bauman, Fouvent, &c., testify) of the hyæna, tiger, bear (*Ursus spelæus**), and other animals, with the elephant, rhinoceros, and hippopotamus, all appearing to be distinct from now-extant species, but certainly agreeing with them in habits and manners, indicates the climate and the productions in these latitudes to have been very different during their epoch from what we now experience, and we are thrown back upon a remote era. Yet is that era *not geologically* remote, for, long before the land existed where they dwelt, the sea had deposited that rock of oolite, the caverns of which some of them habitually haunted, and in which the bones of all are found. Respecting these fossil-bones, Dr. Buckland observes:—"The facts I have collected seem calculated to throw an important light on the state of our *planet at a period antecedent to the last great convulsion* that has affected its *surface*; and I may add that they afford one of the most complete and satisfactory chains of consistent circumstantial evidence I have ever met with in the course of my geological investigations." It is, however, to a still more recent era than that alluded to by Dr. Buckland that the existence of our noble elk is, we think, to be attributed, at least as far as it regards our own islands.

The bones of the "Fossil Elk of Ireland" (*Cervus megaceros*) occur in the greatest abundance, as is implied by the name, in the bogs and marl-pits of that country. They are also found in similar situations in the Isle of Man, as well as in the alluvial strata of England, and have been dug up also in France, Germany, and Italy, where, according to Cuvier, they were found in the same strata with bones of elephants. Ireland, however, appears to have been the congenial habitat of this animal. There its remains are, in some districts, so common, that they have ceased to be regarded as *curiosities*, and are either used for any common purpose, or are neglected till they become destroyed. It is very seldom, however, that an entire skeleton has been discovered, the remains consisting

* In the cave of Gailenreuth, the remains of this gigantic species are found in incredible numbers, as well as in those of Muggendorf and Bauman.



[Horns and Skull of the Fossil Elk of Ireland.]

for the most part of skulls, with the horns attached, and various separate bones disposed without any order. They generally occur in a deposite of shell-marl, covered by a layer of peat, and resting on clay. In this situation one of the few entire skeletons discovered is stated to have occurred. "Most of the bones," says Archdeacon Maunsell, "and heads, eight in number, were found in the marl; many of them, however, appeared to rest on the clay, and to be merely covered with the marl." It is worthy of remark that the fossil remains of no other animals are mingled with them. Of the skeleton to which we have alluded, and which graces the Museum of the Royal Dublin Society, Mr. Hart drew up a memoir. "This magnificent skeleton," he observes, "is perfect in every single bone of the framework which contributes to form a part of its general outline; the spine, the chest, the pelvis, and the extremities are all complete in this respect; and, when surmounted by the head and beautifully-expanded antlers, which extend out to a distance of nearly six feet on either side, forms a splendid display of the reliques of the former grandeur of the animal kingdom, and carries back the imagination to a period when whole herds of this noble animal wandered at large over the face of the country."

The following are a few points of its admeasurement:

	ft	in
Length of the head	1	8¼
Breadth between the orbits		10½
Distance between the tips of the horns, measured by the skull	11	10
Ditto, in a straight line across	9	2
Length of each horn	5	9
Greatest breadth of palm	2	9
Circumference of the beam at the root of the brow-antler	1	0¾
Length of spine	10	10
Height to the top of the back	6	6
Ditto, to the highest point of the tip of the horn	10	4

None of the deer tribe of the present day can at all be compared for magnitude to this fossil species. It is singular, however, that until Cuvier pointed out the differences, the antlers were generally regarded as identical with those of the moose or elk of North America. Independently of size, however, they differ in many essential points: for example, in the moose-deer the horn has two palms, a lesser one growing forward from the front of the beam where the principal palm begins to expand: the palm of the moose-deer's horn is directed backwards, and is broadest next the beam. In the fossil-animal, the palm increases in breadth as it proceeds, which it does in a lateral direction: nor are there fewer differential characters in the skull and general skeleton.



[Moose-deer Horns with their Two Palms.]

Of the habits of the *Cervus megaceros* we can only form a conjecture. The size and lateral direction of its spreading antlers must have prevented its inhabiting the dense forest,—it must have dwelt on the heath-clad hills,—there, armed with the most powerful weapons of self-defence, it ranged secure from the assaults of any single aggressor, capable of dashing down the wolf or hyæna with a blow. Did man exist coeval with this animal in its native land? Most probably yes. A

head of the fossil elk, together with several urns and stone hatchets, were discovered in Germany in the same drain. "In the 'Archaiologia Britannica' is a letter of the Countess of Moira, giving an account of a human body found in *gravel* under eleven feet of peat, soaked in the bog-water: it was in good preservation, and completely clothed in *antique garments of hair*," conjectured to be that of the fossil elk. But what is still more conclusive, there exists a rib in the Royal Dublin Society, evidently bearing token of having been wounded by some sharp instrument, which remained long fixed in the wound, but had not penetrated so deep as to destroy the creature's life: it was such a wound as the head of an arrow would produce.

Of the causes which involved the fossil elk in destruction,—whether one general catastrophe universally affected the whole race wherever existing,—whether local causes, operating at different epochs, have successively extinguished the species, which might have lingered the longest in Ireland,—or whether its extermination has been effected by the hand of man, whose agency upon the animal creation is everywhere apparent, no decided opinion can yet be given. We know it existed, and that is all; its history and its fate are buried beneath the shadow of years gone by.

ADVENTURES IN MESOPOTAMIA.—No. II.

It seems wonderful to me when I think how much misery man is able to bear. I have sometimes been so very miserable that I have felt quite sure that if ever so little more sorrow came upon me it would break my heart in pieces. But more did come,—and I bore it; and more still came upon that,—and I bore it also. And I knew it was the same with others; and when they did die, it was not misery that killed them, but it was famine, or plague, or drowning that did it. It was thus with us now.

While we were watching with the utmost anxiety the gradual ascent of the water towards us, we were alarmed one morning by the information that the wife of Agha Yacub had died of the plague during the night. She had, it seems, been ill several days in her tent; but as men do not talk about their wives, we knew nothing of it till she was actually dead. This would not much have been minded if we had been upon the road; but shut up together as we were, and having leisure to brood over our dangers, this event was regarded with more dismay that I ever knew my countrymen feel about the plague. I, perhaps, felt more strongly on this subject than any one else, as I had learnt from the English to be more afraid than others were of being near those who are afflicted with that terrible disease. I am bound to say that our sympathy with the Agha for the loss he had sustained was much less strong than the anxiety with which we watched to see whom next the plague would smite; for we had very little hope that one victim would satisfy it. We had not long to wait. The husband of the woman was the next in whom the plague appeared, and, before he died, my own uncle, who was this man's particular friend, was also attacked.

Oh, how hard it is to tell what a struggle I felt then between my fears for myself and my duty to my uncle. I felt certain that I should take the plague and die if I went near him; and I did not at all wish to go so soon out of a world in which I believed that there were a great number of good things which I had not yet tasted, and many beautiful things which I had not yet seen. While I thought of these things, I sat outside the little tent in which my uncle lay asleep; and before long my thoughts were interrupted by hearing him call "Lazar! Lazar!"

When I entered the tent I stood still for a moment at a distance, hesitating whether to go to his side or not. He perceived my hesitation, and looked at me at first rather sharply; but, immediately after, his look changed to tenderness, and he said that he really believed the English were perfectly right in what they told me about the plague, and that I had, therefore, better stay at a distance while he talked to me. He then proceeded to acquaint me with the state of his affairs, and told me what I should do in the event of his death. He thus concluded:—"I have thought it best to talk to you about these things now, Lazar, because I know the plague too well to believe that the freshness and cheerfulness which I now feel is a token of any thing else than certain death. Very soon I shall become sleepy, and shall doze out the remainder of life in troubled sleep. I shall seem to suffer; but it is clear that no one can do me any good. I therefore charge you, Lazar, not to let any one come near me; and, of course, I need not tell you not to do so yourself. I did not expect that it would be my lot to die like a dog in the desert; but God sees fit that it should be so, and I do not murmur. Lazar, you have been a very dutiful nephew to me, and I hope that you will live long and prosper abundantly in the world."

Then my heart smote me because I had been thinking for myself more than for him; and I said to him:—"My father, forgive me for having thought that it was better to live among strangers without you, than to die in the desert with you. Shall I forsake you—I neglect you—I who owe all things to you?" Then I ran and threw myself upon his bed, and put my arms round his neck, and wept very much. My uncle raised himself up, and stretched out his arms as if to embrace me; but he changed his mind, and, thrusting me from him, commanded me, in a voice which I had been accustomed to obey, to withdraw to a distance. I did so. But when, on following nights and days, I saw his uneasy motions, and heard his heavy groans, I failed not to approach him, and did all I could think of to relieve or refresh him. I fanned his face and bathed it with water, or I arranged his bed-clothes, so as to render his dying bed more comfortable to him. Of this he could then take no notice, and I knew that he would never more become aware of my proceedings: but my own heart was satisfied.

When my uncle was dead, his old friends came and buried him, it being believed that there is no danger from *the corpse* of one who dies of the plague. I then made a heap of the things which my uncle had worn, and those on which he had lain, and those which had covered him, and burned them, as the English had instructed me. After that I made up a bed for myself, on which I might lie down and die when the plague should come upon me; for I felt certain that it would do so, after I had been so much with my uncle. But the plague-spot appeared on others, not on me: others died around me, and I continued to live. It seems strange to me now to think how different my feelings had at this time become from all that they ever had been and all that they are now. From the time that my uncle died, I ceased to have any sympathy or sorrow for those that I saw dying daily around me, and I also ceased to have any fear or care for myself. I had but one thought or one wish, which was to get away from this horrible place. No matter whither I went, so that I could get away: Bagdad itself, from which we had fled, would have seemed a paradise to me in comparison with the place in which I now was.

Our detention had already exceeded the fortnight which the Sheikh had considered as the utmost probable period of our stay; and yet the waters still went on increasing day by day. The number of deaths, however, which had happened among us, prevented our stock of dates from being consumed so soon as we expected;

yet still it was so much reduced that it became necessary to shorten our daily allowance. I really think there was not a moment in which I did not feel exceedingly hungry; and the utmost that we could do was to keep ourselves a very slight degree short of ravening and savage hunger. Oh, how earnestly we did long for even the frailest boat that was ever trusted upon the waters, that we might endeavour to escape in it to the dwellings of men. It so happened that this wish was not entertained in vain.

One morning we perceived, at the distance of rather more than half a mile from us, one of those small wicker boats which ply upon the Tigris and Euphrates*. As it did not seem that there was any person in it, we conjectured that it had escaped from its moorings somewhere on the Tigris. How we should secure it and avail ourselves of its assistance it did not take long to decide. Two poor Arabs, who were in the employ of the Sheikh, volunteered to go and secure the boat. Their offer was gladly accepted; and they immediately betook themselves to the water, which, at a very short distance from the mounds, was found to be so deep that the men were obliged to swim the rest of the way. When they had got rather more than half-way between the mounds and the boat, one of the men seemed to get faint-hearted, and to despair of accomplishing his undertaking. He therefore turned to swim back to us; but, as he returned, his vigour seemed rapidly to abate, and when he was within about a hundred yards of the mound, he sank, and we saw him no more.

The other man reached the boat in safety, and, after resting himself a little, paddled it towards us. When he came within speaking distance, he stopped. He told us that he could not with safety take more than three persons into the boat; and, as he thought himself entitled to some recompense for having risked his life in the undertaking, the three persons he would take were those who would make him the largest payment. This astounded all but the wealthiest among us; for, although a little reflection would have taught us the absurdity of the expectation, yet when we saw the boat coming towards us, every one exulted in the conviction that deliverance from our wretched thraldom was come at last. When the man in the boat spoke to us, however, our eyes were opened; and we could not but admit the truth of what he said, although every one who was not included among the happy three, disapproved of the principle by which the Arab's selection had been guided. Two wealthy merchants of Bagdad and one of Bussorah made much higher offers than the rest could afford, and were therefore accepted. Before they left us, however, they promised that on their arrival at Hit they would send a sufficient number of boats to take us all away; or if they failed in procuring the requisite number of boats, they would not fail to send back the one in which they were about to leave us, with an ample supply of provisions. Having soothed us by these promises, they entered the boat and rowed off. After this we had a new object of solicitude in watching for the promised boats. Long and anxious were our watchings. But the boats never came; and when we afterwards met at Bagdad the friends who had left us, they convinced us that it was impossible for them to fulfil their promise either as it regarded the boats or the provisions. The boatmen had generally died of the plague, and their boats had gone adrift; and in consequence of the plague and inundation provisions were not to be had at any price, the people living in the towns being themselves obliged to subsist upon their hoarded stores.

* These boats are of a circular form, and have the appearance of large basins. They are made of wicker-work, so coated over with bitumen as to be impervious to the water. Boats of this description are exceedingly ancient.

It was in the fourth week of our detention that we observed, one morning, that the water had not ascended above the tuft of camel-thorn which had been chosen the preceding evening as the mark by which we might know how far the water would increase during the night. Our rapture at this discovery was, however, checked for the time, by the fear that we were in some way or other deluding ourselves. The thing itself seemed too good to be true, after all that we had suffered; and it was possible that the tuft of camel-thorn which we saw was not the same which we had fixed on for a mark, but another higher up which had the evening before escaped our notice. We therefore set another mark with more precision, and some of us sat watching it all the day. In the evening we were unable to say that the water had either increased or decreased; but to know that there had been no decided increase during fourteen hours was joy sufficient for one time. The next morning many of us were at the water's edge before we could see distinctly. We saw at once that the water had *not* increased, and when there was more light, we saw that the water was *below* our mark: the Sheikh was able to put his hand, although it was rather a thick one, between the mark and the water's edge, without wetting the palm. Our delight was for a time quite boundless. Some thanked God upon their knees, some embraced each other, and some ran about the mounds as if they were mad, dancing, skipping, and shouting as they went. Our raptures were in time, however, sobered by the reflection that at the slow rate of decrease which we had witnessed, it must still be a long time before we should be able to escape.

The water, however, retired much more rapidly than it had increased; and, at the end of the fifth week, it had so far subsided, that, although the ground was far from being perfectly drained, we thought it prudent to resume our journey. Our party had been reduced more than one-half, and the survivors had become, through anxiety and want, the most feeble, emaciated, and deathly-looking wretches that were ever seen. It took us twice the usual time to travel the distance to Hit, where we waited until the face of the country had become dry, and then, instead of proceeding to Damascus, we returned to Bagdad. The city was desolate, and most of my uncle's friends were dead, and their houses overthrown. But by this time men had begun to recover from the state of stupor and indifference into which their multiplied calamities had thrown them. Regrets for the dead, and sympathy with the living, returned; and although so many of my uncle's friends were dead, there were not wanting those who, for his sake, extended to me their protection and assistance.

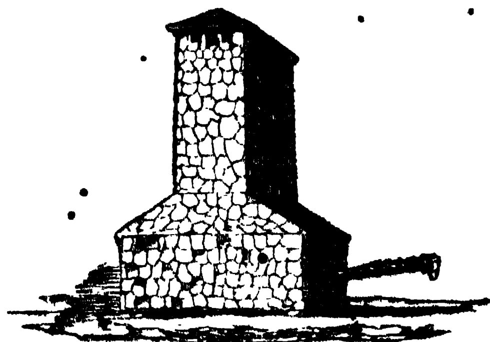
[*Erratum.*—The word "*American*," in the 15th line of the previous Article, is a misprint for "*Armenian*."]

Lord Burghleigh's Advice to his Son concerning Expense.—Touching the guiding of thy house, let thy hospitality be moderate; and, according to the means of thy estate, rather plentiful than sparing, but not costly. For I never knew any man grow poor by keeping an orderly table. But some consume themselves through secret vices, and their hospitality bears the blame. But banish swinish drunkenness out of thine house, which is a vice impairing health, consuming much, and makes no show. I never heard praise ascribed to the drunkard, but for the well-bearing of his drink; which is a better commendation for a brewer's horse, or a dray-man, than either for a gentleman or a serving-man. Beware thou spend not above three of four parts of thy revenues, nor above a third part of that in thy house. For the other two parts will not do more than defray thy extraordinaries, which always surmount the ordinary by much: otherwise thou shalt live, like a rich beggar, in continual want.—*From 'Ten Precepts which William Lord Burghleigh, Lord High Treasurer of England, gave to his second Son Robert Cecil, afterwards Earl of Salisbury.'*

ANCIENT SIEGES.

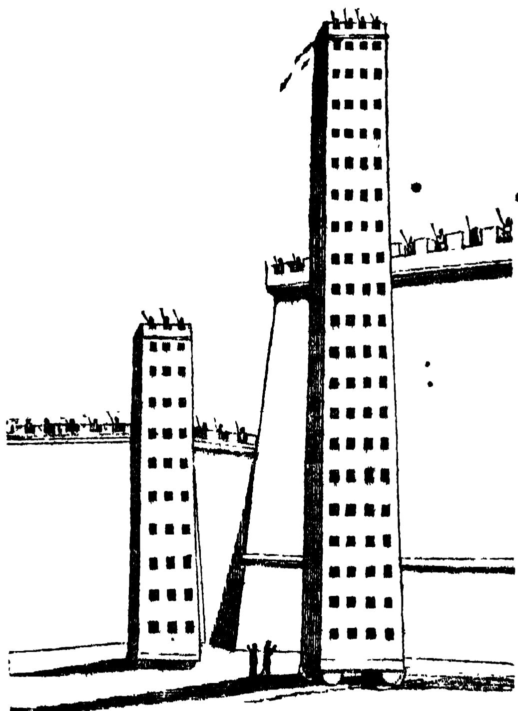
(*Abridged from 'Historical Parallels*, vol. ii.')

In reading of such sieges as that of Numantia, one of the first things which strikes a reader not familiar with ancient warfare, is the extreme rudeness of the methods employed, and the vast expense of time and labour. Before the battering-ram was invented, force could avail little against solid walls; and men soon found out, with Wamba, in Ivanhoe, that their hands were little fitted to make mammocks of stone and mortar. A well-conducted escalade might succeed; a skilful stratagem might deceive the vigilance of the garrison; an ingenious general might devise some method of attack which should render walls useless, as in the attempt to burn out the Platæans, and might derive some advantage from natural facilities, or even from natural obstacles, so as to convert what the besieged most trusted in into the means of their destruction; but to overthrow or pass the walls by violence was commonly beyond his power. But the introduction of the ram worked a material change in the relative



[Battering-ram, combined with tower, from Pompeii, vol. i. p. 78.]

strength of the besiegers and besieged, for few walls could be found strong enough to bear the repeated application of its powerful shocks. Next in importance to the ram were those huge moving towers which overtopped walls, and were provided with drawbridges, by means of which, the battlements being previously



[Moveable towers, from Pompeii, vol. i. p. 80.]

cleared of their defenders by missile weapons from above, a body of troops might at once be thrown upon them.

No material alteration in the methods of attack took place till the discovery of gunpowder gave force enough to projectiles to batter down the strongest walls, without exposing men and machinery to the hazard of close approach. The only improvements which did take place consisted in supplying means by which the assailants might approach with less danger to the foot of the walls, and there apply the powerful ram, or, in some instances, resort to mining.

In illustration of these remarks we may notice, very shortly, two of the most remarkable sieges in ancient history, those of Tyre and Syracuse, both resolutely sustained, both finally successful, both carried on by rich and powerful nations, who commanded every thing that the best skill of the engineer, or the labour of numbers, could effect. The first was undertaken by Alexander soon after the battle of Issus, B. C. 333. From past ages the Phœnicians had been celebrated among Asiatics for their maritime skill, and Tyre was the most powerful of the Phœnician cities. Trusting in their naval strength to obviate blockade and famine, and in the height of their walls, and strength of their situation, to repel violence, the Tyrians refused admission to Alexander, remaining faithful to their engagements with Persia. Too weak at sea to assault the walls from his fleet, Alexander had no resource but to carry out a mole to the island. Near the walls there were three fathoms of water, which shoaled gradually to the shore. The mole was built of stone, heaped up, we may suppose, of rough uncemented blocks, like the Plymouth breakwater, and strengthened with piles; and the top was constructed entirely, or in part, of wood. At first it proceeded with despatch, but more slowly and more difficultly as it approached the walls, from which the besieged annoyed the workmen with missiles, and, at the same time, constantly harassed them from the sea. To protect themselves from these attacks the Macedonians built on the verge of the mole two high towers, armed with engines, and covered with raw hides as defence against darts armed with fire. These the Tyrians destroyed by a peculiarly constructed fire-ship. Having filled a large transport with dry twigs and combustible matter, they fixed two masts in the prow, heaped faggots high around them, and added pitch, sulphur, and everything that was proper to feed the flames. To each mast they fastened two yard-arms, from the ends of which two cauldrons were suspended, filled with combustibles. The ballast they moved entirely to the stern, to raise her head as high out of the water as possible. Thus prepared, they took advantage of a favourable wind to run her upon the mole, and set fire to her, the crew escaping by swimming; and both mole and towers were speedily involved in the conflagration. Meanwhile, the Tyrians, from ships and boats, assisted in the ruin, destroyed the piles, and burnt those engines which would otherwise have escaped the flames. The work therefore had to be recommenced and it was rebuilt on a larger scale.

While this labour was proceeding, Alexander's fleet was reinforced in consequence of the submission of the Cypriots and Sidonians, to an extent which enabled him to command the sea, and compelled the Tyrians to block up the mouths of their harbours. Numerous mechanics were employed in constructing military engines; some of which were placed on board the largest ships of the fleet, and the rest were mounted on the mole. The Tyrians, still to have the advantage of height, built wooden towers upon their walls facing the mole. This would seem scarcely necessary if we credit Arrian's assertion, that the city wall in that part was

150 feet high, but it gives us a scale for measuring the altitude of Alexander's towers, which we may assume, from this precaution, to have been as great or greater. On the side to the sea they cast fiery darts into the attacking ships, and showers of stones, which not only did much harm in their fall, but raised a bank which made it impossible to get close up to the walls. The Macedonians therefore were obliged to clear away these impediments; a work in itself of difficulty and labour, increased by the resolution of the Tyrians, who openly, by sending armed ships, and secretly, by means of divers, cut adrift from their moorings the vessels employed on this service. The Macedonians frustrated this method of defence by using chains instead of cables for mooring, and succeeded at last in clearing away the bank, and getting access to the wall. On the north side, and that next the mole, it resisted their efforts; but a breach was effected on the south side by battering from the ships, and an assault was made, but without success. On the third day afterwards, the breach being enlarged, a second assault was made under Alexander in person, and the town was carried. Eight thousand Tyrians were slain, and thirty thousand persons, natives and strangers, are said to have been sold for slaves.

The most remarkable feature of this siege is the battering in breach from the shipping, which would seem a most unstable base for the cumbrous and weighty engines which must have been used.

The siege of Syracuse, undertaken by the Romans under command of Marcus Claudius Marcellus, B.C. 213, is rendered most remarkable by the interposition of the celebrated geometrician, Archimedes. Many extraordinary stories are told of the wonderful things done by him, which, if they rested only on the authority of Plutarch, and other compilers of stories, it would be the natural and simple course to reject; but some of the most singular are affirmed by Polybius, almost a contemporary, well skilled in war, and of undoubted credit for honesty and discernment; and one point, of which Polybius makes no mention, has been ascertained to be practicable by modern experiment. It is to be regretted that but a fragment of his account remains.

Syracuse was divided into five districts, the little island of Ortygia, Acradina, Tycha, Neapolis, and Epipolæ. Marcellus directed his attack against Acradina, which adjoined the sea, with fifty quinqueremes, or vessels with five banks of oars, well filled with soldiers armed with all kinds of missile weapons to clear the walls. He had also eight ships fitted out in a peculiar way with machines called *sambucæ*, from some fancied resemblance to a harp. They were thus prepared: two ships were lashed together, the oars being taken from the two adjoining sides, so as to form, as it were, one large double-keeled vessel, affording a broad and stable base. A ladder was then made, four feet broad, of the necessary height, protected at the sides and above with gratings and hides, so as to form a sort of covered way to the very summit of the walls. It was then so placed, the foot at the stern, the head projecting beyond the prow, that it could be raised by ropes run through pulleys at the mast-heads. At the top was a platform large enough to contain four men, with high sides which turned on hinges, and which being let down served as bridges to connect the ladder with the walls of the besieged town.

At the request of Hiero, king of Syracuse, Archimedes had in past years constructed a great number of machines for casting stones and darts; with which the walls were so well supplied, that the Romans were defeated in every attempt to approach: Marcellus ran his ships by night beneath the walls, hoping to be within the range of these destructive engines. Here, however, he was anticipated, for Archimedes had hollowed chambers in the walls themselves, with narrow openings, like the embrasures of a Gothic castle, from which archery, and the smaller sorts of missile engines, were directed against the Roman ships with destructive effect. Against the sambucæ he had contrived machines, from which long beams or yards projected, when in use, far beyond the walls. These were heavily weighted with stone or metal to the extent of not less than ten talents, or 1250 pounds. A rapid circular motion being then given to the beam by machinery within the walls, this weighted lever was dashed against the ladder with such force as generally to break it, while the ship itself was exposed to considerable danger. This story not being good enough for Plutarch, he has told us, that when the sambuca was a good way off the walls, a stone ten talents weight was thrown into it, and then a second and third, which destroyed the vessel; and in consequence considerable ridicule has been thrown on the tale. As told by Polybius it seems little open to objection. Weights, not of half a ton, but several tons, are constantly to be seen on our wharfs suspended on cranes, at a considerable distance from a centre of motion. Add to one of these the machinery requisite to give a rapid circular motion to the projecting arm thus laden, and we have the engine of Archimedes, as described by Polybius. The geometrician had also fitted out powerful cranes, with hooks and chains, by which he could lift a ship almost out of the water. When it was raised to the greatest practicable height, the chain was slipped, and the vessel usually was either upset by the fall, or plunged so deep as to fill with water. Marcellus is reported to have observed (it must have been a forced joke), that Archimedes used his ships for cups to draw water in. Finally he was obliged to abandon the attack by sea. Appius Claudius, who conducted the siege by land, fared no better; and it was resolved at last to give up all hopes of succeeding by force, and trust to the slow operation of blockade. "Thus," says Polybius, "one man, and one art rightly prepared, is for some matters a mighty and a wonderful thing; for the Romans, having such power by land and sea, take away but one old man of Syracuse, might have expected immediately to capture the city; but while Archimedes was there, they dared not even to attack it in that manner, against which he was capable of defending it."

It is also said that Archimedes set the Roman ships on fire by means of burning mirrors, composed of a combination of plane mirrors, adjusted so as to reflect all the incident rays of light to the same point. The possibility of this has several times been the subject of inquiry to modern philosophers. Kircher took so much interest in the subject, that he went to Syracuse expressly to inquire into the probable position of Marcellus's fleet, and he arrived at the conclusion that it might have been within thirty yards of the walls. Buffon's experiments, made, as well as those of Archimedes, with a combination of plane mirrors, are conclusive as to the facility of setting tarred fir-plank on fire at a distance of one hundred and fifty feet, and the possibility of doing it at considerably greater distances. Similar planks, and even more combustible materials, were precisely what Archimedes had to deal with. He is said to have operated in this way at the distance of a bow-shot, in which there may very probably be exaggeration.

*** The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

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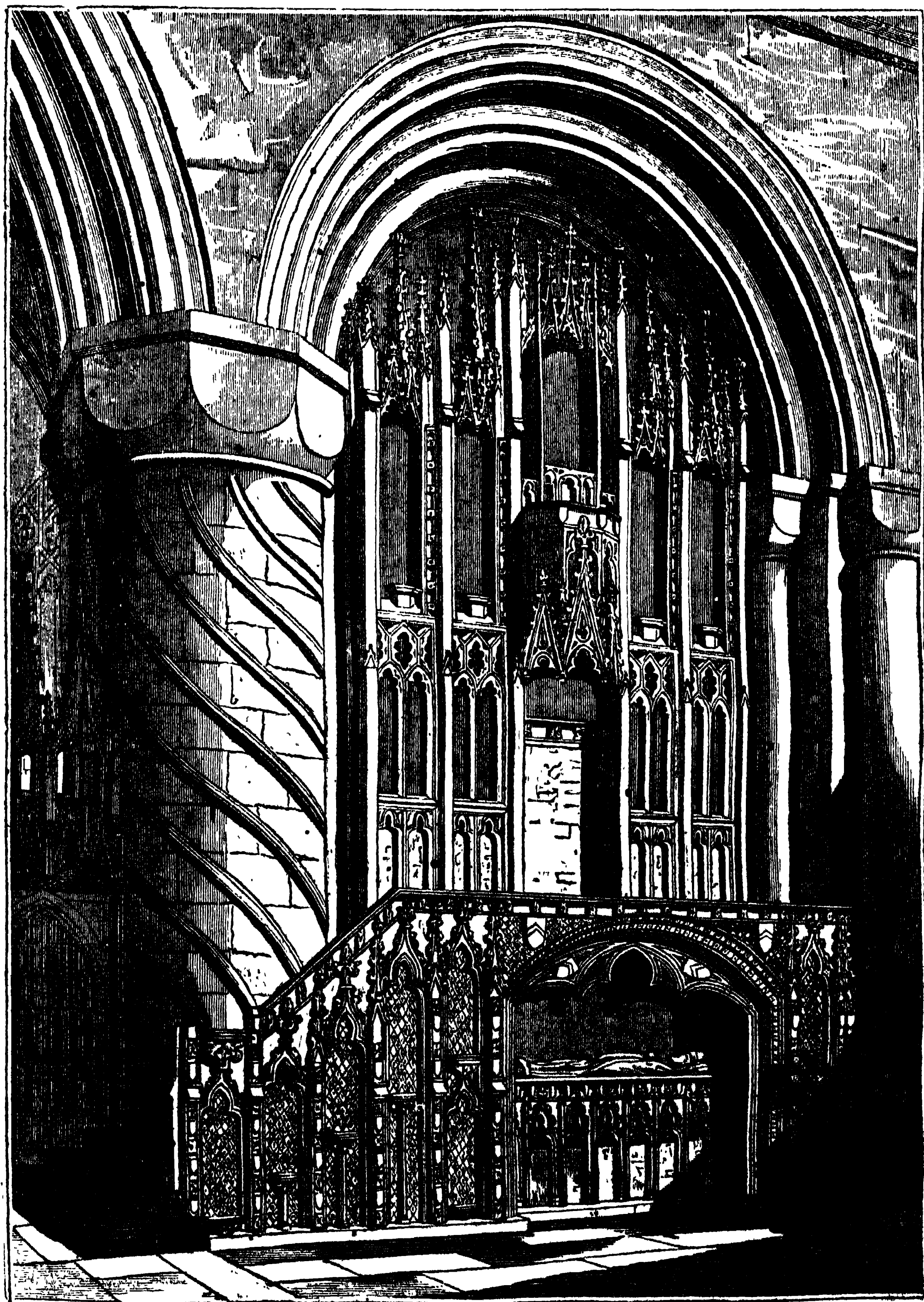
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THE BISHOP'S THRONE IN DURHAM CATHEDRAL.



Bishop's Throne, Durham Cathedral.

Among the objects of interest in Durham Cathedral, the bishop's throne deserves to be noticed as one of the richest and most elegant works of the kind in this country. It may, indeed, be regarded as a record of the very exalted opinion which the bishop by whom it was erected entertained of the power and dignity of his mitre; and, as if to inculcate upon his own heart a lesson of humility under the almost regal distinctions of the state to which he had attained, he built this splendid throne over the vault prepared by himself for the reception of his mortal remains after death. The person who thus edified the world by the spectacle of his humility and his pride in such near alliance with each other was Bishop Hatfield, who died in 1381, and who is stated to have erected the throne about the year 1370. It was repaired, in 1700, by Bishop Crewe, and was new painted and gilt, in 1772, by Bishop Egerton. For the following description of the throne and monument we are indebted to the account prepared, it is believed, by Sir Henry Englefield, to accompany the plates, from drawings by Carter, published by the Society of Antiquaries, in 1801, to illustrate the cathedral of Durham.

The basement-story of the throne serves as a canopy for the altar-tomb of the bishop. The whole front of this story, though in a solid style, as intended to bear the throne and its canopy above, is so richly decorated with sculpture, painting, and gilding, as to have a most elegant and noble effect. It is profusely adorned with shields of arms, and the ground of the work is of the rich panels in low relief anciently called "diaper." The crockets and finials of the niches and pinnacles are extremely handsome. A flight of steps on the left, covered by the sloping wall, leads to the top of the tomb, which is so wide as to give ample room for the bishop and his officers to sit in safety. The seats are panelled in front with quatre-foils. The bishop's seat projects in a hexagonal form. This seat has above it a hexagonal canopy, of the richest and most elegant design, which is surmounted by a canopied niche, probably at some former time filled by a statue. Two smaller niches, also with canopies, appear on each side. The buttresses and pillars which support these canopies, and the pinnacles and flying arches which rise above them, are of so light and airy a design, that it seems scarcely possible that they should have been executed in stone, yet are they connected with so much art as to have remained in perfect preservation to this day.

A very mean wooden rail runs in front of the bishop's seat and up the flight of steps. The original defence was probably by brass columns supporting slender rails, on which hung curtains with rich embroidery. Many examples of this sort of decoration may be found in the illuminations of old missals.

The interesting alabaster-tomb and recumbent statue of Bishop Hatfield, underneath the throne, are still in excellent preservation. Even the beautiful statue, which was the most liable to injury, has only slightly suffered in the more prominent and delicate parts. It represents the prelate habited in his episcopal dress, richly adorned with sculpture, painting, and gilding, in imitation of embroidery. The outer garment is the "chasuble," in its ancient ample form, and much ornamented. On his hands are the episcopal gloves, embroidered on the backs. Beneath the chasuble is the linen alb, or surplice, and under that appears another garment, or tunic, on which three shields of arms are richly embroidered. On the central shield are the arms of England, and the bishop's own coat on the two lateral ones. "The honour of bearing the arms of England in this manner," says the work which we quote, "seems a proof of the high estimation in which this magnanimous prelate was held by his sovereign, and perhaps may have been granted to him in consequence of the distinguished part he bore in the signal victory of Neville's Cross."

The bishop's feet are covered with richly-embroidered shoes, and on his head is the mitre, in its ancient low form. The workmanship of the whole statue is in the very best style of that period when the art of sculpture had, in this country, attained a state of advancement on which we must even now look back with respect.

A short notice of the great prelate who has been so frequently mentioned in the above account, may very suitably conclude this account of his throne and tomb. Little is known of him previously to his elevation to the see, except that he was a prebendary of Lincoln and York, and secretary and keeper of the privy seal to King Edward III., by whom he was highly esteemed. Before this time the popes had for many years exercised the authority of appointing the bishops to the sees of England without even consulting the king. This was viewed with equal dislike by the king, the nobles, and the parliament; and ultimately several statutes were enacted restoring to the churches and convents their ancient privilege of election. This was the state of things when Richard de Bury, Bishop of Durham, died in 1345. The king was exceedingly desirous that his favourite Hatfield should succeed him in that rich see; but he had great fear that the convent would not elect him if the matter were left in their hands, and therefore took the very extraordinary measure of applying to the pope to appoint him. The pope, who had become uneasy at the measures of the parliament, was delighted at an application which implied an acknowledgment of the power which he was quite as anxious to preserve as the parliament to take away. He at once complied; and when objections were made against Hatfield by some of the cardinals as a man of light behaviour and laical manners, he said that if King Edward had made interest to get an ass appointed to the bishopric, he would certainly at such a time have gratified him. The matter did not attract much attention in England at the moment, as national affairs of the most exciting description then entirely engrossed the public mind. It is very possible that Hatfield's clerical abilities were not of the first eminence; but the favour of Edward was so generally bestowed on men of merit that it does not seem necessary that we should infer, from the objection of the cardinals, that any serious stain attached to his conduct, or that his talents did not qualify him for the situation—not less laical than clerical—of Bishop and Count Palatine of Durham.

This situation afforded him an opportunity of rendering his sovereign important service, for when, in 1346, David, king of Scotland, invaded England with a powerful army in the absence of the king, who was besieging Calais, Bishop Hatfield unfurled the banner of his province, and, with other prelates of the north and many nobles, marched against the invaders, who were defeated, and their king taken prisoner. Bishop Hatfield on this occasion commanded in person, jointly with Lord Percy, one of the four divisions of the English army. Eight years afterwards he was one of the commissioners appointed to treat with the Scots for the ransom of their captive king; and we next find him attending Edward when he went to France at the head of a large army in 1355.

Among the many acts for the benefit of his see and convent for which the prelacy of Hatfield was distinguished, we can only mention that Trinity College, Oxford, owes its foundation to him. It was, in consequence, originally called "Durham College," and was at first intended for such monks of Durham as should wish to study there. Before his time, the bishops of Durham had no house in London in which they might reside when summoned to parliament. Bishop Hatfield therefore built a fine palace in the

Strand and called it Durham House (lately Durham Yard), bequeathing it for ever to his successors in the bishopric*. It remained their town residence until the time of Henry VIII., who obtained possession of it by a sort of exchange. Edward VI. gave it to the Princess Elizabeth for her use during life. Mary, however, restored it to Bishop Tonstal; but Elizabeth resumed it when she succeeded to the crown, and granted the use of it to Sir Walter Raleigh; and subsequently it was let out on a building lease, with the reservation of 200*l.* a-year out-rent, which the bishop still receives. The Adelphi buildings now occupy the site.

After a life distinguished chiefly by munificent and charitable actions, the bishop died at his manor of Alford, near London, on the 7th of May, 1384. He is described as a person of venerable appearance, tall, and grey-headed, and "portly in his gait and carriage." The records of his time give large accounts of his charities to the poor, his great hospitality, and good house-keeping, and of the sums he spent in buildings and repairs during the time he held the bishopric†.

Helm-Wind.—The helm-wind is a curious phenomenon which occurs along several miles of the western side of these mountains (Hartside, in Cumberland), and to the violence of which the traveller will be occasionally exposed. It derives its name from a long band or cloud stretching like a helmet over the summit of the hills, and occurs more frequently in the spring and autumn than at other times. Its duration is very various, from a few hours to a few days. The following interesting notices of this singular phenomenon are chiefly extracted from Hutchinson's 'History of Cumberland:'—

Upon the summits of this lofty ridge of mountains there frequently hangs a vast column of clouds, in a sullen and drowsy state, having little movement. This heavy collection of vapours frequently extends several miles in length, and dips itself from the summit half-way down to the base of these eminences, and frequently, at the same time, the other mountains in view are clear of mist, and show no signs of rain. The helm, or cloud, exhibits an awful and solemn appearance, tinged with white by the sun's rays, that strike the upper parts, and spreading a gloom below over the inferior parts of the mountains like the shadows of night. When this collection of vapours first begins to gather upon the hills, there is to be observed hanging upon it a black strip of cloud, continually flying off and fed from the white part, which is the real *helm;* this strip is called the *helm-bar*, as, during its appearance, the winds are thought to be resisted by it, for on its dispersion they rage vehemently upon the valleys beneath. The direction of the *helm-bar* is parallel to that part of the main cloud or collection of vapour that is tinged with white by being struck with the sun's rays; the *bar* appears in continual agitation, as boiling or struggling with contrary blasts, while the *helm* all this time keeps a motionless station. When the *bar* is dispersed, the winds that issue from the helm are sometimes extremely violent; but that force seems to be in proportion to the real current of the winds, which blow at a distance from the mountains, and which are frequently in a contrary direction, and then the helm-wind does not extend above two or three miles; without these impediments, it seldom sweeps over a larger tract than twelve miles, perhaps from the mere resistance of the lower atmosphere. It is remarkable that, at the base of the mountain, the blasts are much less violent than in the middle region; and yet the hurricane is sometimes impetuous even there, bearing everything before it, when, at the distance of a few miles, there is a dead calm and a sunny sky. The spring is most favourable to this phenomenon. The helm-wind will sometimes blow for a fortnight, till the air in the lower region, warmed before by the influence of the sun, is thereby rendered piercing cold.—*Sopwith's Mining Districts in Cumberland and Durham.*

* There are other accounts which attribute the erection of Durham House to Anthony de Bek, who was bishop in the reign of Edward I.

† There is a long account of this bishop in 'Hutchinson's History of Durham,' from which, and 'Chalmers' General Biographical Dictionary,' this account of him is taken.

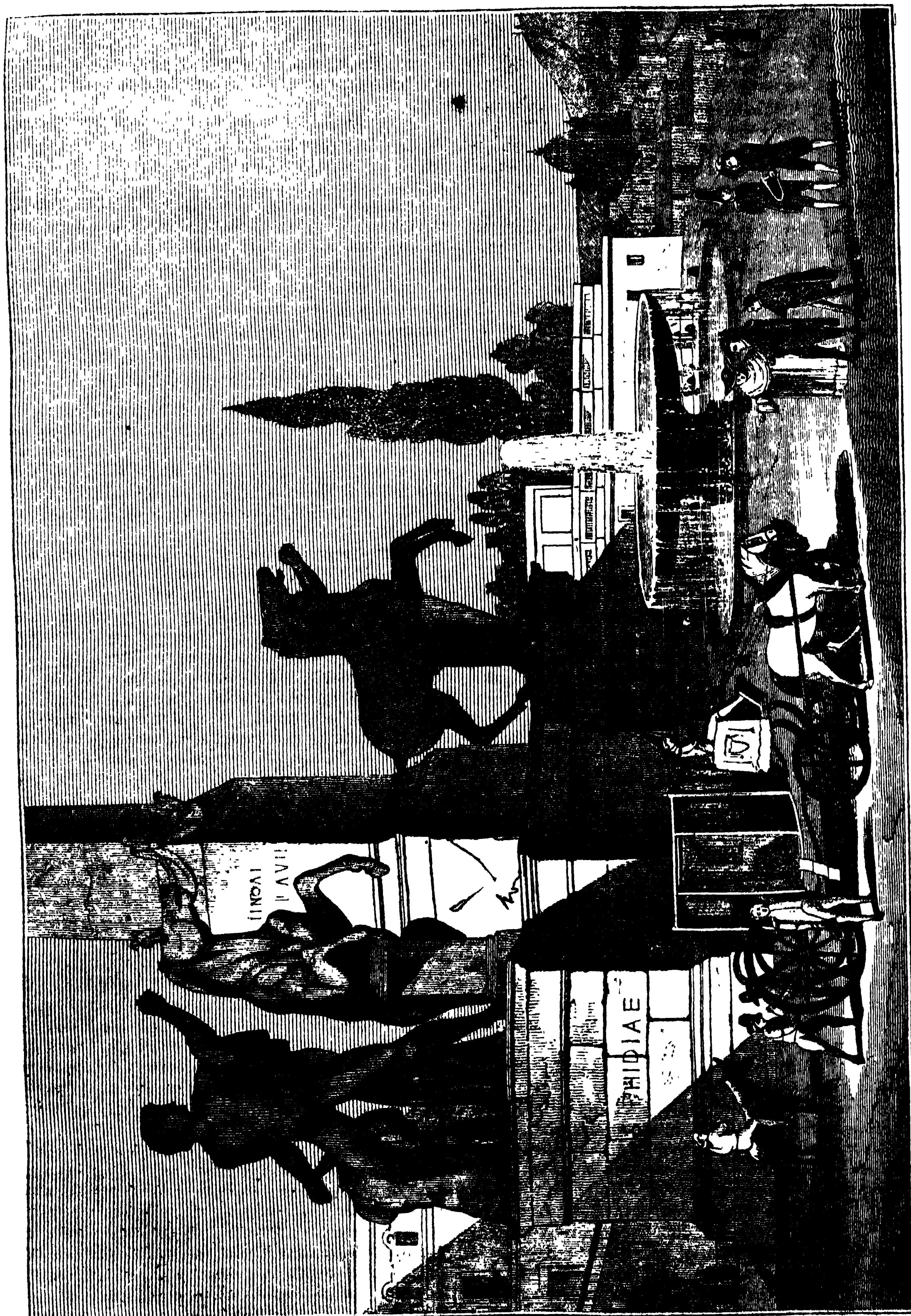
ADMISSION OF THE PUBLIC TO PRIVATE GARDENS, &c.

The following observations are extracted from a sensible little work lately published, called 'Dates and Distances.' They relate to one of the most important subjects—important to the high and the low. The facts which the writer states are valuable for this reason: he shows that in Germany no cause of discontent exists between the upper and the lower classes; that mutual concessions produce mutual good will and mutual content and happiness. We do not agree with the writer in supposing that a similar state may not be attained in this country; and he who points out the means by which such an end may be gained will do good service to the community.

"According to the kind and laudable practice observed almost universally by the German nobility, which I have before noticed, Prince Clary, who is the great proprietor of the vicinity (Toplitz), allows everybody access to his beautiful garden, which immediately adjoins the town. This privilege seems never to be exceeded, nor does it appear that any precautions are taken against its abuse. One ranges through the grounds without being spied at by gardeners or guardians; the indulgence is freely granted, and enjoyed with a freedom which is never disgraced by mischief. Prince Schwartzenberg permits all decently-dressed individuals to enter the gardens of his private residence at Vienna, and nobody thinks of plucking a single flower of the thousands which embellish the parterres. It would not be possible to establish this state of things in England: the rich would never tolerate such an intrusion on their privacy, and the public would soon arrogate to itself rights inconsistent with the rules of sufferance. People in Germany, however, are content to enjoy an indulgence as a concession, and deem it no humiliation to be obliged to their superiors. Indeed, there, obligations are conferred so much as a matter of course, that they are hardly perceived to be such. It is their habits, combined with the more even dissemination of riches, which create so much harmony among all ranks of society on the Continent, especially in Germany, and render the inferior classes so attached to those above them. The few who have immense wealth contrive to conciliate the great body of the people, by making them partakers of their luxuries, by opening to them their parks, gardens, and palaces, and by giving public fêtes and entertainments."

Silk-Trade of France.—The very rapid production of new patterns is the real source of French superiority in the silk-trade. It is estimated that not more than twenty-five pieces are, on an average, manufactured of the same design; and there are a great number of patterns woven for samples, which, not being approved, are never transferred to the piece. For the most part, the fancy trade of Lyons is a trade of orders; the patterns having been exhibited to the buyer before the manufacture of the article is undertaken. Hence stocks are low, as are average profits, on account of the smallness of the risk. There are, of course, many remarkable exceptions in these regions of taste and fashion, where a large price is willingly paid for any production that is pre-eminently beautiful. But the capitals employed in the silk-manufactures of France are, for the most part, moderate. The factory system has been hitherto tried only on a small scale: there is little concentrated labour. Almost every stage of production is independent of the rest. The mulberry-tree grower, the silkworm-trainer, the reeler, the throwster, the winder, the dyer, the artist, the companion, the master-weaver, the manufacturer, the merchant, each stands (for the most part) isolated from the rest; and there is no general superintendence exercised in the production of a piece of silk goods. It may be doubted if the division of labour in France is altogether judicious; whether the relationship between the throwster and the silk-grower, between the loom-proprietor and the compagnon, between the manufacturer and the dyer, might not be improved by change. In some parts links appear to be wanting, and in others to be crowded to excess. Increasing capital, and the pressure of foreign competition, will inevitably lead to many beneficial changes. Experiments are already being made. At St. Vallier, silk is reeled, thrown, and woven, on the same premises. In Lyons, we are told, only four manufacturers wind, warp, and fold their own goods.—*Dr. Bowring's Report on the Commercial Relations between France and Great Britain.*

PIAZZA OF MONTE CAVALLO



[Piazza of Monte Cavallo at Rome.]

The Piazza or Square of the Quirinal, now more commonly called the Piazza of Monte Cavallo, from the statues of the two horses (cavalli), is, taken altogether, not only one of the finest parts of Rome, but one of the most favourable points from which to see the rest of that city. This square is on the Quirinal Mount, which is the highest of the seven old hills · it commands some of the finest views of the modern city, with the noblest of its palaces and churches, fountains and obelisks. From one part of the Quirinal Hill the eye looks down upon the Campus Martius; in another direction it takes in the grand column of the Emperor Trajan, and, in an opposite point, it reposes upon the long galleries of the Vatican, and the massy walls and

sublime dome of St. Peter's, and the shady sides of Monte Mario. La Strada Pia, one of the finest streets in Europe, gives access to the square, on one side of which there stands the Quirinal Palace,—a plain but imposing edifice, in which the pope generally resides in summer, on account of its elevated situation and the coolness and purity of the air. The palace, like the square, is now more commonly called of Monte Cavallo. In the rear of this palace are fine and spacious gardens with shady groves and fresh fountains, and in front of it are most happily placed the statues represented in our view. These statues are of colossal size, and of such great beauty, as to have been attributed, though without any historical authority, to Phidias and Praxiteles, the greatest sculptors of ancient Greece. They were brought to Rome from Alexandria in Egypt, at the beginning of the fourth century of the Christian era, by Constantine the Great, and placed in the Thermæ, or baths, which that emperor erected on the Quirinal Hill, very near to the spot where the statues now stand. These old baths were in good preservation when they were knocked down about the year 1610, during the pontificate of Paul V. by the Cardinal Borghese, who built upon their site and chiefly out of their materials the splendid palace now called Palazzo Mazzarino. The statues, however, were removed from the baths some years before their destruction, and placed where they now are by the architect Fontana, in the time of Sixtus V., who was pope from 1585 to 1590. Fontana also superintended the restorations of the statues which had been somewhat mutilated in the course of many ages and accidents. Each of these groups consists of a fiery horse held by a bold young man, and hence the Roman antiquaries, who often leaped to conclusions from still weaker premises, were induced to believe that they both were intended for Alexander the Great in the act of checking Bucephalus, and consequently the names of the conqueror and the steed are inscribed on the bases the statues stand upon. Of late years, however, it has been rather the fashion to call them Castor and Pollux; and if they must have names—which we think scarcely necessary —these are probably as good as any. At all events, Phidias could not have made a statue of Alexander, from the simple circumstance that he died nearly a hundred years before the "Macedonian madman" was born. But notwithstanding that their names are confidently set down, "Opus Phidiæ" being inscribed on one base, and "Opus Praxitelis" on the other, it is more than probable that they were the works of very different men, though from their beauty and spirit they must have been produced by great masters at a time when art was in high perfection. Like the famous bronze horses at Venice and the rilievos from the Parthenon of Athens now in the British Museum, they will always be cherished by people of taste as precious relics of ancient sculpture. From a roughness and want of finish in the hinder parts of the horses, it should seem they were originally intended to stand with their backs close to some building. The obelisk that now towers between them, and which is one of the granite columns brought from Egypt by the old Romans, is a fine but comparatively-modern addition to the splendour of this piazza. It was set up, about half a century ago, by Pope Pius VI., and we believe, the pleasant fountain with the large granite tazza or basin was completed at the same time. Neither the obelisk nor the fountain occur in the old views of Rome, nor are they represented even in Piranesi's engravings. In the rear of these very striking objects, and on the side of the square opposite to the papal palace, there is a curious quaint building called La gran Guardia, which is occupied by the Swiss soldiers in the service of the Pope. Beyond this are the beautiful Colonna gardens, the tall green trees of which contrast delightfully in the view with the stern palaces and masses of stone and marble. At another corner of the square stands the vast palace of the Rospiglioso family. In short, whichever way the eye turns it is struck with objects of beauty or grandeur, or objects that are interesting from their antiquity and associations.

In the days of the Roman Empire, the Quirinal Mount was covered with buildings as it now is; and, besides the baths of Constantine, which we have mentioned, there was a splendid temple of the sun on the level space now called the square of Monte Cavallo. The aristocracy of the Catholic Church have built upon the ruins of the aristocracy of the Roman Empire as some future race will build upon their ruins, when, at some distant day, these proud palaces shall have crumbled and been deserted. The poet Martial is said to have had a house on the Quirinal Mount.

THE CATACOMBS OF KIEF.

The city of Kief, otherwise spelt Kiev or Kiew, is the capital of a Russian province of the same name, and situated upon the banks of the river Dnieper. The town is one of the most ancient in Russia; and in the year 882 it became the capital of the nation, and continued such until 1157, when the seat of government was removed to Vladmir.

In the present day Kief is exclusively remarkable on account of the character of sanctity which it derives from the possession of the bodies of a large number of holy persons whose memories are held by the Russians in high veneration. It has thus become to them, in some sort, what Jerusalem is to the Jews, and Mecca or Kerbela to Mohammedans. It is estimated that about 50,000 persons annually perform the pilgrimage to Kief from all parts of the vast Russian empire, not excepting Kamstchatka and the most distant regions of Siberia. These pilgrims collect money in their progress from persons who are themselves unable to perform the pilgrimage; and with this they are understood to purchase candles to be burnt before the images of the saints. The catacombs, about which such multitudes of men are interested, are particularly described by Dr. Henderson, in his 'Biblical Researches and Travels in Russia,' and by Colonel Johnson, in his 'Journey from India to England:' by which works we have been chiefly assisted in the preparation of the following account.

The catacombs consist of very extensive subterraneous labyrinths excavated in the precipitous declivity of the hill which forms the bank of the river. The substance of the hill is well suited for the formation of such excavations, consisting of a conglomerate of sand and clay, possessing a considerable degree of hardness and adhesion, but being almost too soft to be described as *stone*.

The entrance to the catacombs is from a very splendid chapel, which is surmounted by three gilded turrets; this chapel is uncommonly rich in its internal decorations, and is intended for the devotions of the pilgrims who explore the subterraneous labyrinths. Some delay always takes place here while arrangements are made about the lights which are to assist the stranger in his observations. This delay affords visiters an opportunity of viewing in detail the embellishments of the chapel. Their attention will probably be the most strongly engaged by a large painting, which represents good and evil spirits awaiting the dissolution of dying persons in order to convey their souls to their destined abodes of misery or happiness. The spirits of evil are represented as in the midst of vivid flames; and the great arch-fiend himself is by far the most conspicuous figure in the

whole scene. Dr. Henderson gives the following anecdote concerning this figure:—"A boy who was standing by, infuriated with rage, ran up and gave him some hard blows with the sharp leathern front of his cap. From the battered appearance of the head, and that of some of the fiends who were near him, it appeared that this was not a solitary instance of this kind of treatment."

When the previous arrangements are completed, a small candle is placed in the hand of each of the persons about to descend. They then enter the passage which conducts to the catacombs. This passage is about six feet high, but so narrow, that two persons cannot pass each other without difficulty: the sides and roof are black from the smoke of the candles and lamps that are continually conveyed through it, and where there is any turn or winding, the projecting angles are worn away and smoothed by the friction occasioned by the continual passing of pious or curious visiters.

This passage runs in a north-westerly direction, and the explorer has not proceeded far in it before he comes to a recess on the right hand containing a coffin without a lid, in which lies the mummied corpse of one of the saints, dressed, or rather swaddled, in silk, with an embroidered cap, and with the stiffened hands so placed as easily to receive the kisses of those visiters who are of the religion of the country. The other bodies seem to be similarly clad, and the kissing of hands is repeated in passing each of the bodies which is so placed as to admit the performance of this ceremony. The total number of bodies in this set of catacombs amounts to eighty-four. Within each coffin there is a small box, with a hole in the lid to receive the contributions of the devout. These generally consist of copper money, which is placed either in the box or upon the body.

The entrance-passage is about twenty yards in length, after which the visiter proceeds eastward by a somewhat circuitous passage, and then turns to the north, and subsequently another turn is made into a passage which conducts by a gradual descent towards the Dneiper. In traversing these passages, the visiter observes, on either hand, in arched niches excavated in the rock, the coffins which contain the bodies, or parts of the bodies, of the ascetics who have been thought worthy of that remarkable but not very laudable posthumous honour which the inmates of the catacombs receive so largely. In these niches the dead are deposited in various ways, and with various circumstances of distinction. Some of the coffins are of silver, highly wrought and richly embossed; in some instances the bodies of two persons are deposited in one wide coffin. A picture, representing the deceased, is painted on the lid of each coffin; and his name and style are inscribed on a board, or painted on the wall of the niche. The recesses in which the dead are deposited are not of uniform construction. In some cases, a small chamber has been excavated in the sides of the passages, and, after having received its inmate, it has been again closed up with a thin wall, in which, about four feet from the ground, is a glass window, through which, when a candle is held up to it, the spectator is enabled to obtain a view of the coffins. One of the most remarkable of these dormitories is that which contains the remains of a rigorous ascetic of the name of John. This man, as the story goes, constructed his own dormitory; and, after building himself in by a wall with a small window, as above described, he interred himself up to the waist, and in that posture continued to perform his devotions until death left him in possession of the grave he had made. The visiter, on looking through the window, observes a figure in the situation described, but whether it be his mummy, as the guides affirm, or only an effigy, it is impossible to decide.

Some of the recesses are larger than the others, and contain two or even four coffins. There is one, still larger, in which no fewer than ten bodies are deposited; but the largest of all is a cave, nearly underneath the centre of the church, which is stated to contain the bodies of the twelve persons who, in this place, first practised the austerities of an ascetic life. The pilgrims are also persuaded that this cave contains one of the bones of the proto-martyr Stephen, and the remains of some of the children who were slain at Bethlehem by order of King Herod. This we may be permitted to doubt. To a foreigner, who cannot sympathize in the peculiar religious feelings of the native visiters, there is no sepulchre in the catacomb which will so much interest him as that of the monk Nestor, who claims the distinction of being the father of Russian history. He lived in the latter half of the eleventh century; and of his 'Annals,' which have been well preserved, an edition in the original Sclavonic, with a German translation and valuable notes, was published, about twenty-five years since, by Professor Schlözer of Gottingen.

The catacombs terminate in two subterranean chapels. The one nearest the entrance is dedicated to the Purification of the Virgin; and the other, which is only a short distance from the river, is dedicated to a St. Anthony, who lies there enshrined in a coffin covered with silver. Both these chapels are very richly ornamented, and mass is performed in them on certain commemorative festivals. The whole of these catacombs are called, from the saint last named, the Catacombs of St. Anthony, to distinguish them from other catacombs farther to the south, called the Catacombs of Theodosius. In some parts of these caverns the air is very confined, but in general there is a perceptible current of cold air introduced through gratings communicating with other passages.

The Catacombs of Theodosius are situated at a short distance to the south of those of St. Anthony. They are not so extensive as those to which the preceding account relates, nor are the bodies (forty-five in number) deposited in them regarded with equal veneration.

The interesting work of Dr. Henderson, which we have already mentioned, gives the following account of the origin of the catacombs:—

"The origin of the catacombs of Kief is to be traced to the introduction of the ascetic life into Russia. Hilarion, Presbyter of Berestof, a learned and devout man, abandoning his church and the intercourse of the world, dug a cell, two fathoms in depth, in a sequestered and woody part of the hill, close to the spot where the monastery now stands, where he imposed upon himself numerous acts of mortification, till called by Iaroslav to be the Metropolitan of Russia. This cell, however, was soon re-occupied by a native of Liubetch, who, after performing a pilgrimage to Mount Athos, where he received the tonsure, and assumed the name of Antonius, endeavoured to settle in some monastery; but not finding any sufficiently strict in its rules of discipline, he repaired to the cave of Hilarion. Here he led a most retired and austere life, addicting himself to prayer and fasting, and, in a short time, acquired such a reputation for sanctity that immense crowds of devotees, among whom was the Grand Duke Iziaslav himself, came to his cell in order to receive his blessing. Other ascetics now associated themselves with him, and enlarged the subterraneous seclusion; a regular monastery was at length formed; churches and chapels were erected for the accommodation of those who visited the place; and, in the course of time, after miraculous powers were ascribed to the relics of the original founders and others, who had rendered themselves famous for the vigour of their discipline, the spot obtained that celebrity which it still retains in the present day."

MINERAL KINGDOM.—Section XLII.

Mercury—(concluded).

The quicksilver-mines of Austria are situated at Idria, a mountainous district on the borders of Carniola, about twenty-five miles north-by-east of Trieste, and about the same distance west of Laybach, a place rendered celebrated in history by the congress of sovereigns held there in 1821. They are said to have been accidentally discovered about the end of the fifteenth century: a peasant wishing to soak a new pail in a rivulet, filled it with sand to sink it, and on raising it found it so unusually heavy that he carried some of the sand to the village pastor, who submitted it to the examination of the imperial director of mines. It was found to be a rich ore of mercury, and works were immediately begun, and have been constantly in operation since that period, yielding a large annual contribution to the imperial treasury. The chief ore is a bituminous sulphuret of mercury, that is, cinnabar mixed with bituminous and earthy matter, and it occurs in veins that traverse a limestone-rock. The mines, although 850 feet deep, are easily accessible, and quite dry, so that they are frequently visited by strangers, who suffer little inconvenience except from the fumes of quicksilver, which are disengaged from the ore even in the mine itself, and from the injury of any article of gold that may have been brought in contact with the mercury. Mr. Russell, in his 'Tour in Germany,' tells us that the miners have a story of two ladies who visited the mines during the Congress of Laybach, one of whom had her gold watch so amalgamated with quicksilver that it looked, when she came up, as if the case had been converted into tin; and the other had her fair cheeks and neck changed to the colour of a mulatto's skin, the sulphur combining with the white metallic powder with which she had sought to correct the natural dinginess of her complexion. In 1803 these mines unfortunately caught fire, and the conflagration raged to such an extent that they were completely abandoned. Attempts were made to smother the fire, but after awhile it burst forth like a volcano, shaking the ground all about, and shattering the adjoining houses like an earthquake. It could only be subdued by turning a stream into them, and thus completely drowning the works. The loss was immense, for, besides the destruction of the internal works, it was nearly three years before the water could be drained off and the operations resumed. For a long period the greater proportion of the produce was bought by the Spanish government for their South American mines, but that demand has nearly ceased, probably in consequence of the increased supply from their own mines at Almaden.

After the mines of Almaden and Idria, the most considerable in Europe are those in the ancient Palatinate, that part of the frontier-country of Germany and France on the left bank of the Rhine, westward of Worms. There are records of their having been worked in the thirteenth century, and they are supposed to have been opened long anterior to that period. They are situated in a hilly country, which forms the northern termination of the range of the Vosges mountains, extending about thirty miles from south to north, from Wolfstein to Kreutznach, and about twenty miles from east to west. The mines are in the coal-strata, coal being worked to a considerable extent in the country at different places; and the bituminous schist, which is rich in mercurial ore, frequently contains fossil fishes. These last are found abundantly near Munster-Appel, and are described by M. Agassiz, in his great work, now in course of publication, on that curious and important department of geological science—a naturalist from whose labours the most valuable general results regarding the history of the revolutions of our globe, in its progress towards its present condition, as disclosed by these organic remains, may confidently be expected. When the successful armies of the French Republic took possession of this territory, a commission of scientific men was sent to inquire into the state of the quicksilver-mines, and they reported that their annual produce amounted to about 67,000 lbs. of mercury.

The most celebrated quicksilver-mines of South America are situated in the mountain Santa Barbara, near the town of Guancavelica, about 150 miles south-east of Lima. They were discovered in 1566 by Henry Garces, a canon of the cathedral of Mexico, who examining one day a red earth, with which the Indians, like the ancients, painted their own bodies and their idols, found that it was cinnabar, from which he knew that quicksilver was obtained in Spain. The Peruvians had sought for silver in this place, but were quite unaware of the treasure it contained in the mineral so essential to them in refining the ores of their precious metals. The part of the mountains where the mines are situated is 12,300 feet above the level of the sea. The cinnabar occurs in the form of layers and of veins in a sandstone which is almost as compact as pure quartz, thirteen feet thick, forming a subordinate bed in a calcareous puddingstone, or rather breccia, that is, a rock composed of angular fragments of limestone, cemented together, resting upon or rather being a part of an extensive formation of magnesian-limestone. From documents which have been regularly kept of the produce of these mines, it appears that they had in general yielded annually from 400,000 to 600,000 lbs. of quicksilver, and in some years as much as 1,050,000 lbs. But in 1789 an ignorant superintendent, wishing to increase the produce, caused the miners to work the masses which had been left to support the roof, as is usually done in coal-mines; the consequence of which was, that, when the pillars were taken away, the roof of the mine sank down to the floor and closed it. (See 'Penny Cyclopædia,' Article Andes.) Ores of mercury are found in many other parts of the Andes, but not hitherto in great quantity. Humboldt says, that they exist abundantly in many parts of Mexico; but although they have for a long period required a large importation, when Humboldt was there mines had been opened only in two places, and even there were badly managed, and yielded a small quantity.

The method of obtaining quicksilver from cinnabar, which is by far the most common ore, is very simple. The ore, after being broken, carefully picked and reduced to powder, is put into an iron retort, with a proportion of quick-lime; a glass receiver is attached to the neck of the retort, and, by the application of a strong heat, the sulphur combines with the lime; the quicksilver is set free,—is distilled over and is collected in the receiver. A hundred pounds weight of ore yield in general from six to ten ounces of mercury.

Uses of Quicksilver.—The great consumption of this metal is in the refining of gold and silver ores by the process of amalgamation. It appears from Pliny and Vitruvius that this art was known to the ancients, and it was practised in Germany long before the discovery of the American mines. It was first practised in Mexico, and introduced from thence into Peru in the year 1557. The quantity of mercury used in the refining-establishments of Mexico at the time of Humboldt's visit was about 1,632,000 lbs. annually, and those of South America consumed about 918,000 lbs. A large quantity is imported into China for the same purpose. On an average of the fourteen years ending with 1828, the imports of quicksilver into Canton by the English and Americans amounted to 648,085 lbs. annually. The quantity imported into the several ports of the United Kingdom in the year 1833 was 1,597,866 lbs., and in the same year 1,166,137 lbs.

were exported, and 260,158 lbs. cleared for consumption. With the exception of a small quantity from Germany, the whole amount imported was from Spain. The exports were to all parts of the world, but the largest proportions to Mexico, Chili, Peru, and different ports in India, including the Archipelago and China.

Mercury is extensively used in the arts, in various processes of gilding, and in jewellers' and silversmiths' works. In gilding, the gold is formed into a soft amalgam with mercury, and in that state is applied to the copper button, or other article; the mercury is driven off by heat, the gold remains behind, and is then burnished. One of the most extensive uses of it is for the manufacture of vermilion for paint, and for the colouring of sealing-wax. The quantity of quicksilver converted into vermilion in Paris amounts to about 40,000 lbs. annually, of which the greater part is consumed in the manufacture of sealing-wax. There is also a large consumption of quicksilver for the silvering of looking-glasses, which is done with tin-foil and a layer of mercury between it and the glass. The manufacture of barometers and other philosophical instruments must also require no inconsiderable quantity. The use of preparations of mercury in medicine is well known, especially in the form of calomel, which is a compound of mercury, oxygen, and muriatic acid; and a larger proportion of the acid forms corrosive sublimate, one of the most deadly poisons.

MONOMANIA IN HORSES.

The following curious facts are extracted from a paper by Professor Rodet, in 'The Veterinarian,' a sensible monthly publication:—

"In 1806, during the campaign of Austerlitz, a Piedmontese officer possessed a beautiful, and, in other respects, a most serviceable mare, but which one peculiarity rendered at times exceedingly dangerous for the saddle. She had a decided aversion to paper, which she immediately recognized the moment she saw it, and even in the dark if one or two leaves were rubbed together. The effect produced by the sight or sound of it was so prompt and so violent, that in many cases she unhorsed her rider; and in one case, his foot being entangled in the stirrup, she dragged him a considerable way over a stony road. In other respects, this mare had not the slightest fear of objects that would terrify most horses. She regarded not the music of the band, the whistling of the balls, the roaring of the cannon, the fire of the bivouacs, or the glittering of arms. The confusion and noise of an engagement made no impression upon her; the sight of no other white object affected her; no other sound was regarded; the view or the rustling of paper alone roused her to madness. All possible means were employed to cure her of this extraordinary and dangerous aberration, but without success; and her master was at length compelled to sell her, for his life was in continual danger.

"A mare belonged to the Guard-Royal from 1816 to 1821. She was perfectly manageable, and betrayed no antipathy to the human being, nor to other animals, nor to horses, except they were of a light grey colour: but the moment she saw a grey horse she rushed upon it, and attacked it with the greatest fury. It was the same at all times and every where. She was all that could be wished on the parade, on the route, in the ranks, in action, and in the stable; but such was her hatred towards grey or white horses, that it was dangerous to place them in the same stable with her, at whatever distance. If she once caught a glimpse of one, whether horse or mare, she rested not until she had thrown her rider, or broken her halter, and then she rushed on it with the greatest fury, and bit it in a thousand places. She generally, however, seized the animal by the head or by the throat, and held it so fast that she would suffocate it if it were not promptly released from her bite.

"As she grew old (for she was eighteen years old in 1821), this mania was not quite removed, but it was somewhat weakened. No other body of a white colour appeared to make the least impression on her.

"A mare, belonging to the fifth squadron of hussars, feared, on the contrary, all white inanimate objects—such as white mantles or coats, even the sleeves of shirts and chemises too much displayed, and particularly white plumes. When any of these white bodies, and especially in motion, were suddenly perceived, if they were of any magnitude, and their motion was rapid, she was in a dreadful fright, and strove to escape; but if they were of no great size, and moved more gently, she rushed furiously upon them, struck at them with her fore-feet, and endeavoured to tear them with her teeth. No other colours produced the slightest effect upon her, nor did the appearance, however sudden, of white horses or dogs of the same colour; but if a white plume waived, or a white sheet of paper floated by her, her fear or rage was ungovernable.

"These three cases of singular and particular aversion, possess, in my mind, all the characters of true monomania."

Gas-Lighting.—From the old workings up to the day at Workington, there is brought a small tube, the mouth of which is not more than an inch and a half in diameter. There continually proceeds from it a stream of bad (inflammable) air, which burns perpetually, and makes a jet of flame about a foot high above the opening of the tube. The flame is of a bluish colour, much like that which is given off by spirit of wine. A short time ago there was a similar tube at Whitehaven; but now there is a full circulation of air. The Director then proposed to the magistrates of the town to carry from the mine different tubes through each of the streets in the town; and that by this means all the streets might easily be lighted during the night.—*Jars, Voyages Metallurgiques*, tom i. p. 245, 1765.

Decrease of Population, and Mortality in "London within the Walls."—In the beginning of the last century the population of London within the Walls was not much less than 140,000, as proved by deduction from the Parish Registers; and the annual mortality was as one to twenty of that population. In the year 1750, the population had decreased to 87,000; and fortunately for the health of the citizens, space continues to become more and more valuable for counting-houses and warehouses than for human habitation, so that the population of the city within the walls became 78,000 in the year 1801, and is now diminished to 55,778, the rate of mortality being now less than one in forty.—*Appendix to Parish Register Abstract for* 1831.

Lord Burghley's Advice to his Son concerning the Treatment of Children.—"Bring thy children up in learning and obedience, yet without outward austerity. Praise them openly, reprehend them secretly. Give them good countenance, and convenient maintenance, according to thy ability, otherwise thy life will seem their bondage, and what portion thou shalt leave them at thy death they will thank death for it and not thee. And I am persuaded that the foolish cockering of some parents, and the over-stern carriage of others, causeth more men and women to take to evil courses than their own vicious inclinations. Marry thy daughters in time, lest they marry themselves." As to the sons Lord Burghley disapproves of sending them to travel, at least he would not have them cross the Alps: he says, "If by travel they get a few broken languages, that shall profit them nothing more than to have one meat served in divers dishes." In point of fact, however, travel is good, or evil, or neither, according to the degree in which the traveller has been previously prepared to turn to good account, or bad account, or no account at all, the opportunities which travel offers. Lord Burghley then expresses a strong opinion against training up sons to a warlike profession; and adds, on this point, "It is a science no longer in request than use; for soldiers in peace are like chimneys in summer."—*From 'Ten Precepts which Lord High Treasurer Burghley gave to his second Son Robert Cecil.'*

*** The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

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THE DEVIL'S BRIDGE.



Devil's Bridge, South Wales.

THIS name is very generally applied to bridges placed in difficult and hazardous places, the popular ignorance of old times easily getting over the difficulty of their construction by attributing them to the evil one. There are many devil's bridges among the Alps, in Savoy, Switzerland, the Tyrol, and the Grisons; there are others among the Apennines, in Italy, and others again among the Pyrenean mountains; but the subject of our present illustration is not quite so far off, being a Welsh Devil's bridge. It is situated in Cardiganshire, South Wales, between Hafod and Aberystwith, and not far from the roots of the mighty Plinlimmon. This bridge is thrown across a deep rent or chasm in the rocks through which, about 118 feet below the arch, the river Mynach forces its way, and after flowing onwards for a few yards, dashes down in a succession of cataracts into a deep abyss, which is about 326 feet beneath the level of the bridge, but only partially seen from it. The opposite disrupted cliffs, at the point where the arch spans them in a very bold and picturesque manner, are not above eighteen feet asunder; they are in part covered with hardy mountain ash and other trees; but lower down they lay bare their magnificent masses of dark rock, which have been worn, fretted, and brought to a slippery-looking polish, by the constant rushing of the Mynach,—which is here rather a mountain torrent than a river. A fine safe carriage-road leading to the foot of Plinlimmon runs over the upper arch; for, as the reader will perceive in the engraving, there are two arches that span the chasm, the one over the other. The lower bridge, to which the legend made the devil stand god-father, was built in 1187, by the monks of Ystrad Flur, or Strata Florida, or Star-flower Abbey, an important house of the Cistertian order, where many of the ancient Welsh princes were buried, and the mouldering ruins of which

are still to be seen in the neighbourhood, at a short distance from Hafod. In those dark ages most of the monastic orders were the benefactors of mankind, and the pioneers of civilization; they were the greatest road and bridge makers then in existence; for while the warlike barons and lawless feudal chiefs found their safety and glory in inaccessible mountain fortresses and dangerous and impassable ways, it was to the interest of the monks that the faithful from all parts should be able to repair without impediment to their abbeys and churches, the shrines of which were to be enriched by popular piety, whilst their own influence was to be increased by a direct and constant communication with the people. This particular bridge, though insignificant enough as a modern work, was important and extensively useful in those days, and indeed even now it (or rather its successor) is the only direct medium of communication between those who live on the opposite sides of the long deep chasm or bed of the Mynach. After having done good service for 600 years—facilitating the friendly intercourse of man with man, and the interchange of people's cattle, produce, and goods—after having survived the religion (as a national faith) of those who built it, and the cells and cloisters of the proud Abbey in which they lived, this old bridge showed some symptoms of weakness and decay, and consequently the new arch was built over it in 1753, the expense being borne by the county. Though the bridge and the gulf beneath it have been immensely exaggerated by certain affected tourists who cannot be emphatic without being hysterical, nor describe what nature and art have placed before them without magnifying its dimensions, and so brightening its lights here, and darkening its shades there, that scarcely any likeness to the object is left, they certainly present, when taken in connexion with one another, and whether seen from the level of the bridge, or from the chasm below, a most striking and picturesque scene, and one that is in itself worth a journey of many miles. At each end of the bridge there is a steep, rough path down the rocky sides of the chasm to some ledges hanging over the stream, where the visiter may stand almost immediately under the arch, and hear, with singular effect, "the roar of many waters," whose headlong course is unseen, or only very partially and mysteriously revealed at one or two points of rock. The foaming waves, indeed, seem to sink into the bowels of the earth, and to see them re-appear the traveller must climb up the path and descend again into the chasm by a still rougher and indeed a somewhat dangerous path, about a hundred yards to the south-west of the bridge. A guide, who is always on the spot, and a little courage, accompanied by prudence and patience, will however carry him safely down the ravine to a broad and compact ledge of rocks, whence his eye can take in nearly the whole of this compound and really beautiful cataract, which may be dwelt upon for hours and with increasing delight, even by those who have seen the grander water-falls of Switzerland and Italy. We lay some stress upon this assertion, because too many of the flying tourists of the day run from one end of the continent to another without ever thinking of what is contained in our own beautiful native land, and because people generally are too apt to think lightly of what is near home and easy of access.

After passing through the narrow, funnel-shaped passage under the bridge, the impetuous Mynach makes four leaps or falls. The first is about forty yards south-west of the bridge, where, after roaring over a rough ridge, it is projected into a fine rocky basin at the depth of eighteen feet. Its next leap is sixty feet, and the third twenty. It then encounters rocks of prodigious size, and of the most boldly-picturesque forms, through which it rolls, dashes, roars, and hisses till it reaches the edge of a tremendous cliff,—a sheer precipice,—down the face of which it throws itself to a depth of 110 feet. Thus the falls together are 208 perpendicular feet, to which ought to be added some feet for the declivity of the three basins or pools they encounter in their descent. We have taken these admeasurements from Mr. Malkin's description, which our own observation proved to be the most correct. After its fourth and greatest leap, the vexed Mynach—still pouring over an oblique and rocky bed—rolls, as a rapid, to the bottom of a broader and more open chasm, where it joins its waters with the Rhydol, another impetuous mountain-stream that, having flowed during part of its course through a narrow chasm like that under the Devil's Bridge, and made a fine fall a few hundred yards off, meets the Mynach nearly at a right angle. The encountering streams, particularly at the seasons when their waters are most abundant, clash and roar, rush upon and retire from each other like enemies in deadly conflict; but, after a while, becoming friendly on a better acquaintance with each other, and finding more room to move in (for the chasm expands into a fair valley and allows of a wide and level bed), they flow on, in gentle unison, like one and the same river:—

"May our hearts, like their waters, be mingled in peace."

The inefficiency of words to describe a scene like this has been felt even by the first of poets; nor can the painter represent motion or sound, and without its headlong speed "rapid as the light,"—without its tremendous voice, roaring, howling, and hissing, all in one,—a cataract is only half a cataract, even let it be painted on canvass as huge as the mountains;—is little better than a dumb lion fastened to a stake, with his mane, tail, and paws cut off, and all his tusks extracted.

As we went down the rugged path which, in several places, lies over the face of almost perpendicular lumps of rock, where the tourist must use his hands to grasp the bushes, and his toes to support himself on any little ledge or hole, or inequality of surface, we gave ourselves time, at every good resting-place, to examine the beautiful picture in detail, pausing, as near as we could, at the foot of each successive fall; and, when at last we got below the fourth fall, we sat down on a broad shelving table of rock, close to the foaming sheet, and while the minute spray that filled the atmosphere of that deep hollow, and sparkled in it like diamonds, cooled our heated faces and hands, and refreshed the very heart within us, we gave ourselves quietly up to the enjoyment of sensations which we can only describe by calling them dreamy and delicious. A thousand little irides were to be seen in and over the sheet of falling water, and the prismatic colours, indeed, were scattered all about, and varied and changed places according to the sun's motion, and the greater or less brilliancy of his rays. Nothing can be more absurd than some of the guide-books when they speak of "the horrors of this gloomy chasm,"—this "abyss for ever denied a ray of sun;" for there is nothing horrid in the scene, which is *beautiful* rather than terrific; and as for the sun's rays, they most happily light up every part of it that wants light during a good part of the day, shining, at the very bottom of the chasm, upon the broad, grey rocks beneath the last of the falls. The light, open foliage of the trees above, and the creeping and hanging plants that decorate the rocky sides of the ravine, do not intercept the sun's rays, but here and there separate and cool them, and give them, as it were, a most delicate light green tinge. This foliage, which is far more abundant than might be expected in so rocky a scene, is the cause of much of its beauty. Whether in descending the sides of the chasm, or in looking upwards

from the bottom of it, the glittering leaves and waving and overhanging branches produce the happiest of effects and contrasts.

The path or descent to which we have alluded, and which we can recommend as being the easiest, is on the left bank of the river, and nearly under the comfortable inn called the Hafod Arms. Crossing the Devil's Bridge, and going along the opposite side of the chasm, the visiter will find two other paths which lead down to the falls. From one of these, which lies over the bold promontory that separates the bed of the Mynach from the bed of the Rhydol, a most lovely view is obtained, the eye embracing all the four falls at once. But to reach the necessary point is, in sober truth, a laborious and even a dangerous task, as the face of the precipitous rock is there partly covered with a layer of soft, thin, rotten, slate-like stones, that break and crumble away beneath the foot.

At the time of our visit, which was early in June, 1834, there was only one inn, but another was building on the other side of the Devil's Bridge. From the clean, quiet rooms of the Hafod Arms, we enjoyed, even without stirring from our arm-chair, some very beautiful and tranquillizing mountain scenery. The falls of the Mynach are only heard, but the single fall of the Rhydol is seen, in a straight line from the house, at the head of a rocky glen. The never-ceasing dashing and roaring of the waters, subdued and harmonized by distance; the clouds floating over the mountains; the varying light and shade cast on the mountains' sides as the sun changes his place in the hemisphere; the bold flight and swoop of hawks and other birds of prey that soar, as if they were proud of their safety and power, above the abyss down which the cataract thunders; the purity and sweetness of that mountain air, and a total abstraction from the turmoils of life, will of themselves be enjoyment enough for two or three days to the lovers of nature.

There are several agreeable walks in the neighbourhood of the inn. One of them is delightful, and leads to a curious and picturesque bridge called "the Monk's Bridge."

On a beautiful summer evening we crossed the Devil's Bridge, and walked along the road to the distance of about a mile and a half, when we came to a quiet little church and a solitary group of cottages. We then turned off to the left of the road, and presently came to the deep, rough chasm through which the Rhydol runs. We descended about 250 feet by a rude and steep path, and then found ourselves on a ledge of rocks immediately above the foaming torrent, which is there narrow but deep. Three planks of no great breadth are laid from the rock on which we stood to another ledge on the opposite side of the torrent, and the stem of a small tree, the opposite ends of which were not very steadily fixed in the rocks, serves as a hand-rail on one side of the planks. This is the Monk's Bridge, which is of the same fashion and materials as many bridges that are found among the Alps. In crossing it the planks bent, and the single hand-rail shook so much, and seemed so weak and unstable, that we did not rely upon it for much support. This primitive and perilous-looking bridge may be about six yards long and above fifty feet above the Rhydol, which, just under the planks, has scooped out a dark deep pool, over which the torrent flows to some sharp jagged rocks close at hand, where it makes a fall. On the other side of the bridge we saw a path leading up the sides of the chasm, similar to that by which we had descended. Rough and dangerous as the passage is, it is much frequented by the peasantry. The bridge is sometimes called "the Parson's Bridge."

SCHOOLS OF ART.

Among the many advantages that Lyons possesses, the school of St. Peter, where a course of instruction in the different departments of art is gratuitously given to about 180 students, must not be forgotten. The course lasts five years; the classes open at nine and continue till two o'clock. The students must be of French birth, and Lyonnese are to be preferred. The city of Lyons pays 20,000 fr. annually for the support of the school, and the government gives 3000 fr. from the budget of the Minister of Commerce. A botanical garden, a hall of sculpture, a museum of natural history, and an anatomical theatre, belong to the establishment. There are professors of the different branches of the fine arts, and one whose particular business it is to teach their application to manufactures, and to instruct the students in the manner of transferring the productions of the artist to the loom of the weaver. The students who are advanced, are generally easily located as draughtsmen or pattern producers among the manufacturers, and the school constantly pours forth a supply of talented young men, whose taste is specially devoted to the production of novelties, and who very frequently are admitted to partnership in the principal houses, if their creative or inventive powers are of a distinguished order. The gain of an artist is from 3 fr. to 10 fr. or 12 fr. per day, and in some cases of very high merit, considerably more. The preparation of new patterns is the great concern at Lyons; it commences many months before the season approaches for which they are intended. The success of the most prosperous of the manufacturers may be traced to the *artistical* skill of some one of the partners or dependents. Lyons is constantly sending forth and creating novelties, and receiving fresh impulse from every part of the world which her beautiful productions reach. The School of Art at Lyons has undergone of late some remarkable improvements. A distinguished professor (M. Bonnafond) is now at its head, and I owe to him the following account of its present position. (March, 1834.)

There are now 200 students. They are divided into seven classes, under the direction of seven professors.

These classes are,—1. The elementary class; 2. The bust-copying class, or that in which the study is solely devoted to inanimate objects; 3. The animate-object class, in which the studies are all of living models; 4. The ornamental class; 5. The architectural class; 6. The botanical class—flower-drawing, painting, &c.; 7. The *mise en carte* and sculpture class—in which the application of art to manufacture is the object of instruction.

Since the Revolution of July, two additional classes have been instituted, to each of which a professor is attached.—1. Engraving; 2. Anatomy, comparative and picturesque. The anatomical professor is also the keeper of the cabinet of natural history.

There is also a library and museum accessible to the students, consisting of works of art, drawings, models, &c. The students are allowed to study in the gallery of the museum.

In the centre of the school is a depôt of all the materials necessary for the students, from which they are supplied.

The morning lessons last five hours—the evening lessons two hours.

The whole of the studies are carried on under the same roof; but a separate building is being erected to serve for the exhibition of the works of Lyonnese artists.

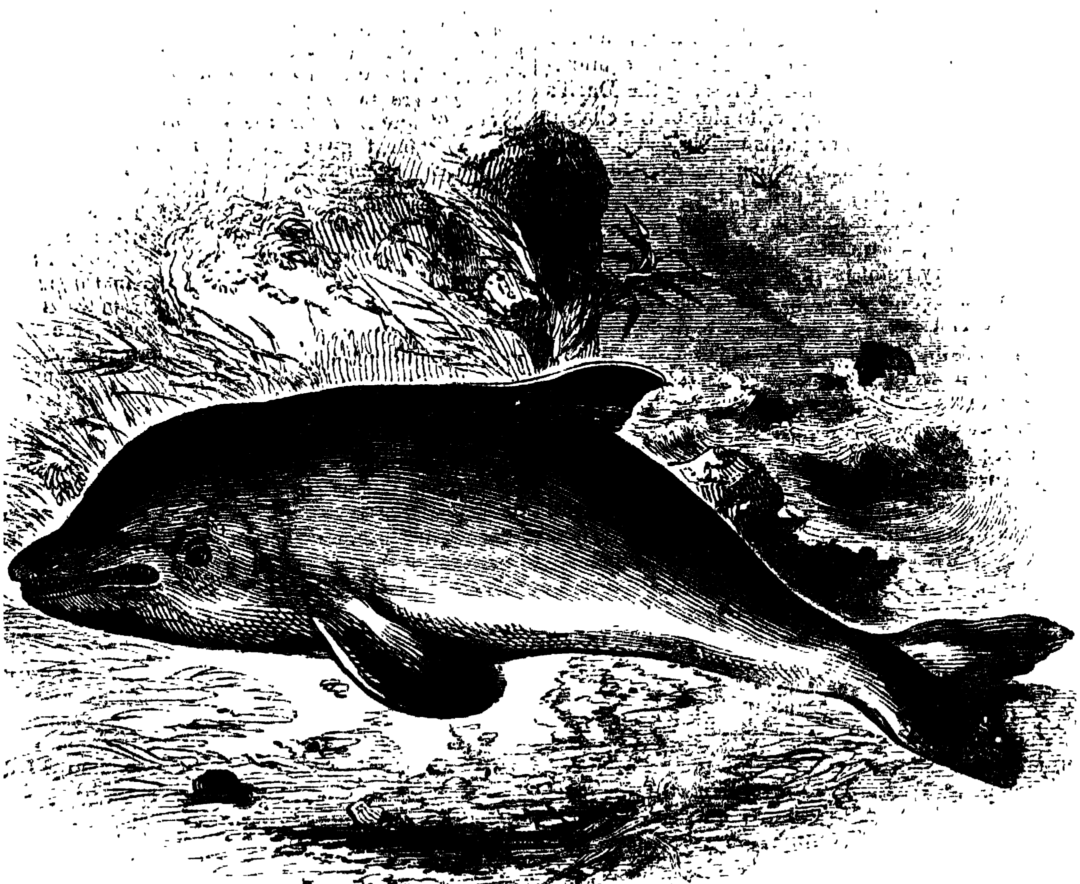
The works which have been crowned, or recompensed with the first prizes, are to be collected in a separate apartment, and so arranged as to exhibit the progress of the school from its first foundation.

Great progress is making in the ornamental classes, whose combinations are susceptible of so many varieties.

A botanical garden is attached to the school, which furnishes a supply of plants and flowers to the students throughout the year.—*Dr. Bowring's Report on the Commercial Relations between France and Great Britain.*

Variety of Knowledge.—All knowledge is of itself of some value. There is nothing so minute or inconsiderable, that I would not rather know it than not. In the same manner, all power, of whatever sort, is of itself desirable. A man would not submit to learn to hem a ruffle of his wife, or his wife's maid: but if a mere wish could attain it, he would rather wish to be able to hem a ruffle.—*Boswell's Life of Johnson.*

THE PORPOISE



[Porpoise.]

The *cetacea* (an order of *mammalia* comprising the whale, the grampus, the porpoise, &c.,) were formerly classed with *fishes*, and in common language still bear that ill-applied title. Hence we read of the "*whale-fishery*," and of the number of "*fish*" taken upon any occasion. The cetacea are not "*fish*" in any sense of the word. They breathe the atmospheric air by means of lungs; their heart consists of two auricles and two ventricles; their blood is warm; they bring forth living young, and manifest towards them great attachment, nursing and protecting them with remarkable assiduity. As it respects the general form of their body and the construction of their limbs, the *cetacea* differ considerably from all terrestrial mammalia; and the reason is evident—their exclusive destination to aquatic habits. Terrestrial mammalia are covered with hair, wool, spines, scales, or plates of mail: in the *cetacea*, we find the skin naked and smooth,—a circumstance in strict harmony with their structure and habits. In its general outline, the body has considerable resemblance to that of a fish, being of an oblong form, and terminating in a thick, muscular tail, furnished, at the extremity, with a horizontal cartilaginous paddle. There are no posterior limbs, and the anterior are modified into the form of short broad oars, which they resemble also in their use. But the great muscular force resides in the tail; its action is not, however, from side to side, as we see in the fish, but up and down, and the reason of this arrangement is very evident;—the cetacea breathe air, and are obliged to inspire every few minutes, hence, plunging as they do into great depths, they are enabled to raise themselves, by a succession of vigorous strokes, with great rapidity to the surface. What is termed "blowing" by the whale-fishers is nothing more than the forcible expiration of the breath before the animal has reached the surface. Having retained his breath as long as possible, as he ascends, he begins to force out, through his nostrils, the pent-up air, which throws aloft the water in a jet or column. The position of the nostrils in the cetacea is well worthy consideration. Of little use as olfactory organs, they are the exclusive apertures through which the process of breathing takes place. In other mammalia, the nostrils are placed at the extremity of the muzzle, but in the cetacea the muzzle or snout is always immersed beneath the surface, and cannot well be elevated. Where, then, can these organs be conveniently situated?—On that part which, as the animal floats, rises naturally above the surface. They open on the top of the head, and lead, in the whales, into a large sack, where the air, before being expired, is pent up, and whence it is violently expelled by the compression of powerful muscles. The larynx or windpipe is prolonged into the posterior *nares*, or back of the nostrils, in the form of a cone, so that the air is immediately conducted to the lungs through an uninterrupted channel. As it regards the organs of sight and hearing, we may observe that, as in fish, the eye is adapted to the density of the surrounding medium, the cornea being flat, and the crystalline lens globular. The external aperture of the ear is very small, and capable of being closed.

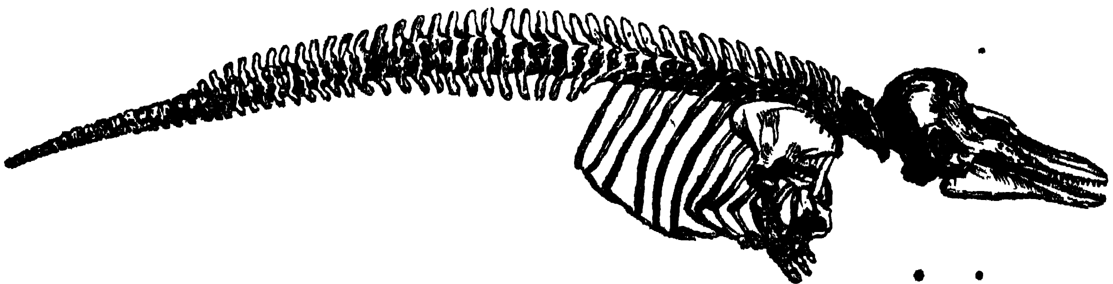
There are two other points, of especial interest, which we cannot pass over, general as we intend our remarks to be,—we allude to the deposition of a layer of oil or blubber between the skin and muscles, and to the construction of the vertebræ of the neck. There are several uses connected with the mode of life of the

cetacea which the layer of blubber between the skin and muscles appears to serve. In the first place, it tends to render their specific gravity lighter,—a circumstance of some importance when we consider the immense mass of muscle and bone of which these animals are compacted. It is, however, in the true whales that we find the layer of blubber the thickest. These are animals exposed to the rigours of the Polar circle, and it would appear to be a means of preserving the vital heat of the body, which might perhaps be otherwise unable to withstand the intensity of the cold. This coating is as bad a conductor of caloric as the fur of the white bear. But the blubber has most probably another use also. It is well known that the whale plunges to an amazing depth, where it has to sustain an extraordinary pressure. Now, to prevent this pressure from paralyzing the muscles and disturbing the functions of the internal organs, must be one of the ends to be kept in view in the economy of this gigantic animal. Such a purpose the thick layer of blubber will well subserve, and such is, no doubt, one of its appointed uses.

The cetacea appear to have no neck. They have no distinct interval of separation between the head and the trunk, yet, if we examine their skeleton, we shall find that they possess the number of cervical vertebræ common to all mammalia, namely, seven. The neck of the giraffe also consists of seven vertebræ. But, in the one case, we find the vertebræ elongated to the utmost, in the other case, the whole seven are compacted closely together, and so compressed as to lose the usual appearance of such bones;—they scarcely occupy the space, in length, of a single vertebra of the giraffe. Hence the neck of the cetacea is immovable and solid.

The cetacea are divided into several groups. Some are herbivorous, as the dugong, feeding on the submarine vegetables which grow in shallows or near shore; most, however, are carnivorous, preying on the fish and other tenants of the ocean. To this latter family must be referred that common native of the shores of our island, the porpoise (*Phocæna communis*, Cuvier).

The porpoise is the smallest of the cetacea, seldom exceeding five feet in length. It frequents, in troops, the bays and inlets of our coast, and especially the mouths of rivers, not unfrequently advancing to a considerable distance up their stream. In such places it is often taken in nets by the fishermen, becoming entrapped while eagerly pursuing its prey. When the shoals of herring and other fish which periodically visit our coast make their appearance, they are harassed, among other enemies, by this active and voracious animal, which revels in the luxury of a perpetual feast; and, as its appetite is enormous and its digestion rapid, the slaughter in which it appears incessantly occupied must be very great. The porpoise is common at the Nore, and few have sailed to Margate or Ramsgate who have not seen these animals, tumbling along, as they appear to do, in the rushing waves. The peculiarity of their motion results from the horizontal position of the tail paddle, and the up-and-down stroke which it gives; and their momentary appearance is for the purpose of breathing, which accomplished, they plunge down in search of their food. In former days, the flesh of the porpoise was highly esteemed as a delicacy for the table, and was served at public feasts; indeed, it is but lately that it has fallen into disrepute, and been omitted at city entertainments, where the turtle usurps its place. Our forefathers must have had a different notion about table delicacies from ourselves; for few, we believe, would now relish the rank, oily, fishy flesh of this animal.



[Skeleton of the Porpoise.]

CHINA.—No. II.

The Cities of China.

In its principal features, the city of Pekin differs little from the description we have given of it from Marco Polo. Its form, however, has varied from a perfect to an oblong square, and the city only occupies an area of twelve square miles. Its gates are no longer twelve but nine. Its suburbs, so vast in the time of the old Venetian, seem gradually to have been declining in the course of the two last centuries. The early missionaries found them of prodigious extent, and, in 1720, John Bell describes them as "very extensive;" but according to Staunton's account, it took the English embassy, going at a very slow ceremonious pace, only fifteen minutes to traverse the suburb by which it entered Pekin, and twenty minutes that by which it departed.

The city itself is now divided into two—the Chinese and the Tartar cities. Except in its length of walls *, which are about thirty feet high, and twenty feet thick, its numerous towers flanking these walls, and its lofty gates, the first exterior view of Pekin is rather flat and uninteresting. There are no towers, spires, domes, obelisks, or great public buildings towering above the rest,—not even a chimney to break the uniformity of the house-tops, which being nearly uniform in height, and the streets being all laid out in straight lines, give the city the appearance of a vast encampment, or assemblage of canvass-tents, which would be almost complete if the roofs were painted white instead of red, blue, and other colours, as they are. Very few of the houses, even in the capital, are more than one story high. The city is situated in a plain,

* The materials of which these walls are built are sun-burned bricks and granite. "We reached the city of Pekin," says Mr. Clarke Abel, when describing his abrupt departure with Lord Amherst, "at the close of day, stepped from our carts to steal a piece of its walls;—had just time to observe that they were built of a sun-dried brick, of a blue colour, resting on a foundation of blocks of granite." It will be remembered that the great wall of China is composed of the same materials.

fringed at its extremity by the mountains of Tartary, the distant view of which, according to Mr. Ellis, is striking and agreeable.

Before entering within its walls, we should not omit to observe that the road by which Pekin is approached is paved with fine granite stones, from six to sixteen feet in length, and proportionably broad, and that these enormous flags must all have been carried at least sixty miles, the nearest mountains where quarries of granite are found being those that divide China from Tartary*.

Once within the gates, which are double, the sight presented by Pekin is novel, singular, and impressive. Two streets, as straight as a line, four English miles long, and 120 feet wide, run parallel from two gates in the southern wall to two gates in the northern wall, and these are crossed at right angles by other two streets of the same magnificent width. Opening on one of these main streets, which are four times as long as Oxford Street in London, or Princes' Street in Edinburgh, the traveller sees before him a double line of gay shops and warehouses, whose wares, as we have explained, are displayed in full view, and whose splendid sign-posts stand before them, not merely ornamented by the painted and gilded inscriptions, setting forth the nature of the goods and the exemplary honesty of the dealer, but generally entwined with silken ribands, and hung with flags, pennants, and streamers of every possible colour, from top to bottom, like, but still more gay, than the mast of a man-of-war on some great holiday. The sides of the houses are scarcely less brilliant, being generally painted of some delicate colour, mixed with gold ornaments. In singular contrast with our notions and practice, the articles exposed for sale that make the greatest show are coffins for the dead. Along these streets he sees a continual crowd during the day, which has scarcely a break or interruption. It flows in a central and two lateral currents. In the middle stream are mandarins and grandees of the court, on horseback or in palankeens, attended by their numerous retinues, bearing umbrellas, flags, painted lanterns, and other insignia of rank;—Tartar soldiers dashing along on horseback, or making their way by applying their whips to the crowd;—long strings of camels, bringing coals from Tartary, and wheel-barrows and carts, with vegetables from every corner; —ladies carried in sumptuous sedan-chairs, which are used in great numbers;—marriage-processions, and funeral-processions, the biers in the one case and the cars in the other being gilded and covered with canopies of silk, and the funerals being the most splendid portions of the moving picture.

The lateral streams are filled up by those who are busied in buying, selling, and bartering: the gaiety, buz, and confusion that prevail, are greater than might be expected from the general character of the Chinese: the dealer cries his goods, the purchaser chaffers and wrangles aloud, the barber flourishes his tweezers in the air, and clacks them together, inviting custom; comedians and quack doctors, mountebanks and musicians, pedlars and their packs, jugglers, fortune-tellers and conjurers, leave no space unoccupied on the sides of the street. And this noise, and bustle, and crowd, is not confined to any particular season or occasion, but reigns every day of the year. "I scarcely ever passed the gates, which happened twice or oftener in the week," says Mr. Barrow, "that I had not to wait a considerable time before the passage was free, particularly in the morning, notwithstanding the exertions of two or three soldiers with their whips to clear the way." The number of women in this crowd is by no means proportionate to that of the men. In the capital, the Chinese confine their wives more scrupulously than elsewhere, and though in the quiet streets or cross lanes young girls (who always retire at the approach of men) may occasionally be seen smoking their pipes at the doors of their houses, few women, except Tartars, are seen either in the crowd or in the narrow streets. The Tartar women, however, go about everywhere, both on foot and horseback, which they cross like men. They are seen in the thickest of the crowd, clad all in long silken robes that reach to their feet, which appear as much too large as those of the Chinese women do too small.

When the main streets cross each other at right angles, there are erected at the four points of intersection, four of those ornamental arches which we have described as monuments to those who have attained venerable age, or merited well of the community. They consist of three gateways, the central one of which is bold and lofty,—the narrow roofs thrown over them are like the roofs of the houses, pensile, painted, gilded, and varnished.

The ample breadth and continuous crowd are confined to the four large, main streets: all the other streets are mere lanes branching from the great avenues (also at right angles), and are very narrow, solitary, and silent. In these lanes, however, the houses of the state officers, and of most of the rich and great, are situated. Lord Macartney, and the gentlemen of his embassy, were lodged in a house of this sort in a lane near to the city-walls, which had not been long built by a former *Hou-pou* of Canton, who was said to have spent nearly 100,000*l*. in its erection. What increases the dulness of these streets is, that there are no windows or openings (save a little mean door, generally closed) in the fronts of the houses. Such things are only found in the great shops and magazines, which are all situated on the four principal streets. Many of the houses of the wealthy class have, however, a sort of terrace, with a railed balcony or parapet-wall in front, which is ornamented with miniature trees, shrubs, and flowers growing in pots, and produce rather an agreeable effect.

Neither the broad nor the narrow streets have any pavement, but both are cleaned every morning, and the latter regularly watered to lay the dust, which is often intolerable.

Every one who has had access to this remarkable city has affirmed that the police maintained is singularly strict. At the two ends of each street there is a wooden gate or barricade, closed at night, which cuts off the inhabitants of that particular street from communication with the rest of the town, nor will the sentries there permit ingress or egress to any one who has not a lantern in his hand, and urgent business to plead. Night-watches also perambulate from gate to gate, who, instead of crying the hour as our watchmen used to do, strike upon a short tube of bamboo, which gives a dull, hollow, and loud sound. To show their vigilance they exercise this instrument every two or three minutes as they go their rounds. Lord Macartney, who had two or three of these noisy guardians of peace and tranquillity constantly near his house, could not sleep a wink for the first three or four nights, but, by degrees, became so accustomed to the noise that it did not disturb his slumbers. In addition to these measures, which, though they admirably secure the safety and tranquility of the inhabitants, probably originate mainly from the jealousy and apprehension of their despotic government, the proprietor or inhabitant of every tenth house in the city, like the ancient tythingmen of England, takes it in turn to keep the peace, and be responsible for the orderly conduct of his nine neighbours. If any riot should take place he is obliged to give instant information at the nearest guard-house.

* Lord Macartney says, that on his way through the province of Pe-che-li, in which Pekin is situated, he did not find so much as a single pebble big enough to make a seal of.

These regulations are common to the rest of the Chinese cities.

Pekin, as we have mentioned, is divided into two. The Mantchoos or Tartars inhabit the northern, the Chinese the southern portion. The court end, or what is called "The Imperial City," in which are situated the emperor's palace and gardens, all the tribunals or public offices, lodgings for the ministers, the eunuchs, tradespeople, and artificers of the court, occupies a parallelogram about a mile long by three-fourths of a mile broad, and is surrounded by a wall twenty feet high, built of large red glazed bricks, and covered with a pensile roof of tiles, which are yellow and varnished. The enclosure offers a delightful inequality and variety of surface, not produced by nature, but by the industry of man, and "a rivulet* winding through it not only affords a plentiful supply of water, but adds largely to the beauty of the grounds, by being formed into canals, and basons, and lakes, which, with the artificial mounts, and rocks, and groves, exhibit the happiest imitation of nature †."

There are very few more remarks to be made on the capital of the Chinese empire. Its exuberant population was stated, both by the missionaries and the Chinese themselves, (when neither were suspected of any motives for exaggeration,) at 3,000,000 of souls! Mr. Barrow, who had the most ample means of observation, and who is always rather under than over the mark, confidently calls it the greatest city on the surface of the globe. The picture it presents to the Europeans contains many grand, imposing, and some beautiful features; but our primary comforts and advantages are utterly wanting. It has no pavements, no cloaca or sewers, and no commodious supply of wholesome water; consequently, it is muddy in winter and dusty in summer. It abounds in the foulest smells, proceeding from ordures and all sorts of filth, which the wealthy try to neutralize in their houses by making use of a variety of violent perfumes, and burning strongly-scented woods and compositions; and its inhabitants are obliged to draw their supplies of the indispensable fluid from wells dug in the city, whose water is execrable. Were the magnificence of Pekin ten-fold what it is, it might be sacrificed for the supplying of these wants. The lofty gate and the gilded palace, the royal garden and the ornamental lake, are not to be put in competition with those things which contribute to the comfort and health of millions. The greatest work of ancient Rome was her *cloaca*,—and the greatest defect of modern Paris is in her not being supplied with water like London.

America.—In beholding this fine young giant of a world, with all its magnificent capabilities for greatness, I think every Englishman must feel unmingled regret at the unjust and unwise course of policy which alienated such a child from the parent government. But at the same time it is impossible to avoid seeing that some other course must, ere long, have led to the same result, even if England had pursued a more maternal course of conduct towards America. No one, beholding this enormous country, stretching from ocean to ocean, watered with ten thousand glorious rivers, combining every variety of climate and soil, therefore every variety of produce and population; possessing within itself every resource that other nations are forced either to buy abroad, or to create substitutes for at home; no one, seeing the internal wealth of America, the abundant fertility of the earth's surface, the riches heaped below it, the unparalleled facilities for the intercourse of men, and the interchange of their possessions throughout its vast extent, can for an instant indulge the thought that such a country was ever destined to be an appendage to any other in the world, or that any chain of circumstances whatever could have long maintained in dependence a people furnished with every means of freedom and greatness. But far from regretting that America has thrown off her allegiance, and regarding her as a rebellious subject, and irreverent child, England will surely, ere long, learn to look upon this country as the inheritor of her glory; the younger England destined to perpetuate the language, the memory, the virtues of the noble land from which she is descended. Loving and honouring my country as I do, I cannot look upon America with any feeling of hostility. I not only hear the voice of England in the language of this people, but I recognise in all their best qualities, their industry, their honesty, their sturdy independence of spirit, the very witnesses of their origin—they are English; no other people in the world would have licked us as they did; nor any other people in the world, built up, upon the ground they won, so sound, and strong, and fair an edifice.—*Mrs. Butler's Journal.*

* This small river issues from a chain of hills about ten miles to the west of Pekin, and, under the name of Yun-ho, falls into the Pei-ho, about sixteen miles to the east of that city.

† Barrow.

Opposition to Improvement.—In France, as elsewhere, every improvement has had to struggle against vehement opposition. The proprietors of old machines look with jealousy and dislike upon those who introduce any changes likely to diminish the value or supersede the use of those in which their property is invested; and these improvements are most difficult of introduction when they are either completely new or of foreign origin; as, in that case, the whole of the existing interests are against their introduction. In a *protected* trade, and in the exact proportion of the efficiency of protection, imperfect instruments will be employed; the motives to adopt better modes are almost wholly destroyed, and the interest of the existing manufacturers is to combine against the intrusion of improved methods of fabrication. The Jacquard loom, the bar loom, and the machinery which adapts the broad loom to riband weaving, would never have been forced upon France but from the improvement-creating pressure of foreign competition. The Jacquard machinery subjected its inventor to be almost hunted out of society; the introducer of the bar loom died in an hospital; and the late employment of the common loom for riband weaving would never have been sanctioned, had not the riband trade absolutely departed from Lyons, and forced the manufacturers there to new exercises of ingenuity in order to win it back again; and in this, to a considerable extent, they have succeeded.—*Dr. Bowring's Report on the Commercial Relations between France and Great Britain.*

TIPPOO'S TIGER.

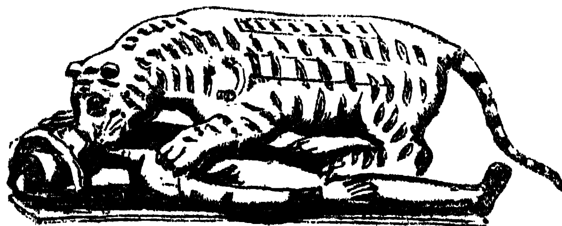
The engraving at the end of this article is an accurate representation of a strange toy or plaything, supposed to have been constructed for the amusement of Tippoo Sultan, sovereign of the Mysore, by some European artist at his court. It was found in the palace at Seringapatam after Tippoo's defeat and death, in 1799, in an apartment appropriated to the reception of musical instruments, and was presented to the museum of the East India Company by the army. It represents a tiger in the act of tearing to pieces a prostrate soldier,—intended for an Englishman. The tusks of the animal have just penetrated the collar-bone of the soldier, who is lying on his back, stiff as a Dutch doll, with the tiger standing upon him; the fore-paws resting on his chest, and the hind-paws on his thighs. The representation is altogether of the most primitive description, as the engraving will testify. The attitude of the tiger is perhaps not so bad, but that of the man is very ludicrous: the left hand is placed on his mouth,—the right arm, in soldierly attitude, straight down by his side;—the legs are stiff, and the feet, with well-blacked shoes and painted-yellow buckles, are turned out as though upon drill. The dress of this figure is equally droll with his attitude. He has a round black hat, with a low crown, and broad brim. His coat is scarlet, adorned with large roses, and two gilded epaulettes;—his breeches are green, and his stockings yellow.

But the great object for which this group was constructed, and the part which is said to have given the greatest delight to its royal owner, was the machinery which it contained. This, though not of nice workmanship, is simple and ingenious in contrivance. The handle seen on the animal's shoulder turns a spindle and crank within the body; to this crank is fastened a wire, which rises and falls by turning the crank: the wire passes down from the tiger between his fore-paws into the man's chest, where it works a pair of bellows, which forces the air through a pipe with a sort of whistle, terminating in the man's mouth. The pipe is covered by the man's hand; but at the moment when, by the action of the crank, the air is forced through the pipe, a string leading from the bellows pulls a small lever connected with the arm, which works on a hinge at the elbow; the arm rises in a manner which the artist intended to show supplication; the hand is lifted from the mouth, and a cry is heard. The cry is repeated as often as the handle is turned; and while this process is going on, an endless screw on the shaft turns a worm-wheel slowly round, which is furnished with four levers or wipers; each of these levers alternately lifts up another and larger pair of bellows in the head of the tiger. When by the action of one of these four levers the bellows are lifted up to their full height, the lever, in continuing to turn, passes by the bellows, and the upper board being loaded with a large piece of lead, falls down on a sudden and forces the air violently through two loud-toned pipes, terminating in the animal's mouth, and differing by the interval of a fifth. This produces a harsh growl. The man in the meantime continues his screaming or whistling, and, after a dozen cries, the growl is repeated. Such is the delectable nature of the music which pleased Tippoo so much, that he is said to have passed hours in his music-room with an attendant turning the handle of the machine. The situation of the parties was typical of the subjection of England to the Khodadad*, and the representation consoled him with a show of power whenever his arms were unsuccessful.

But we will charitably hope that this was not the sole amusement derived by Tippoo from this instrument. On opening a door in the side of the tiger, a row of keys may be seen just withinside; although awkwardly placed, and not very easily come at, they may be played upon in a clumsy way, and may be made to produce music. There are eighteen of these keys, each differing from the next by the interval of a semitone: the part touched by the finger is made of ivory; it is not flat as the keys of a pianoforte, but rounded like a stud or button. They are arranged with the bass to the left and the treble to the right, as in our instruments; but the semitones are all in one even line, which renders it awkward in the hands of one of our performers. Behind the keys are two rows of copper pipes, in unison with each other, two unisons being played by each key: either or both rows of pipes may be made silent by drawing out one or two stops placed by the tiger's tail, contrary in this respect to our organs, which are made silent by pushing the stops in. Behind the pipes, on the further side of the tiger, are placed the large bellows which supply this part of the instrument with wind. These are larger than either pair before mentioned;—they are blown by means of a piece of string coming out of the animal's shoulder, near the handle, and may be worked by an assistant.

This part of the machinery appears to be quite unconnected with the growling and screaming portion of the instrument, and would seem to be intended merely to fill up a vacant space in the tiger's body, without reference to the original destination of the machine, as a symbol of abhorrence to Europeans. The bellows cannot be worked by turning the handle; nor, if that were possible, could the instrument be played upon while they were so worked, for the door through which the hand is admitted to touch the keys must be kept shut or the handle will not turn round. The string coming out of the shoulder, though it appears at first to be a mere temporary substitute for some other and more mechanical means of doing the work, is in fact a part of the original contrivance, as will appear on a close inspection. By pulling this string pretty briskly, so as to keep the bellows distended, a tune may be played in a clumsy way, even now, although the machine is somewhat out of order. The pipes are not ill made, and they are tolerably in tune; but their tone is loud and harsh, not unlike the principal stop of the organ. It has been stated that the instrument was originally played like a street-organ; but, except the above-mentioned growling and screaming, this is not the case. There is no barrel, nor any means by which a barrel could let air into the pipes if there were one. The mistake undoubtedly arose from the look of the handle and pipes, which bear a considerable resemblance to those of a barrel-organ. The case for this curious piece of music is the tiger's body, which is constructed of thin hard wood, well adapted for giving effect to the harsh tones produced. The body of the tiger is perforated in several places to let out the sound, and the whole of the upper part may be taken away by removing a few screws. The man is formed all of wood, like the tiger, but, being the base of the group, it is not of so light a structure; it is put together in a clumsy way, such as a common carpenter would not like to acknowledge. The tiger is merely put upon it, and secured by common screws, with their heads sticking out of the animal's paws. So rude is the construction of the whole machine, that it has been thought to be much older than the age of Tippoo, and that in fact it was made in the seventeenth century for some sovereign of the southern part of the peninsula when the Dutch were making inroads upon them. The appearance of the soldier is certainly much more like that of a Dutchman of the seventeenth century than of an Englishman at the end of the eighteenth. In this case Tippoo would only have the credit of adopting the invention ready made, instead of that of originating the barbarous idea: at all events it appears certain that he was in the habit of enjoying the working of the machine.

Whether made for Tippoo himself or for some other Indian potentate a century and a half earlier, it would be difficult to convey a more lively impression of the mingled ferocity and childish want of taste so characteristic of the majority of Asiatic princes than will be communicated at once by an inspection of this truly barbarous piece of music.



[Tippoo's Tiger.]

* Gift of God, the name by which Tippoo designated his dominions.

. The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

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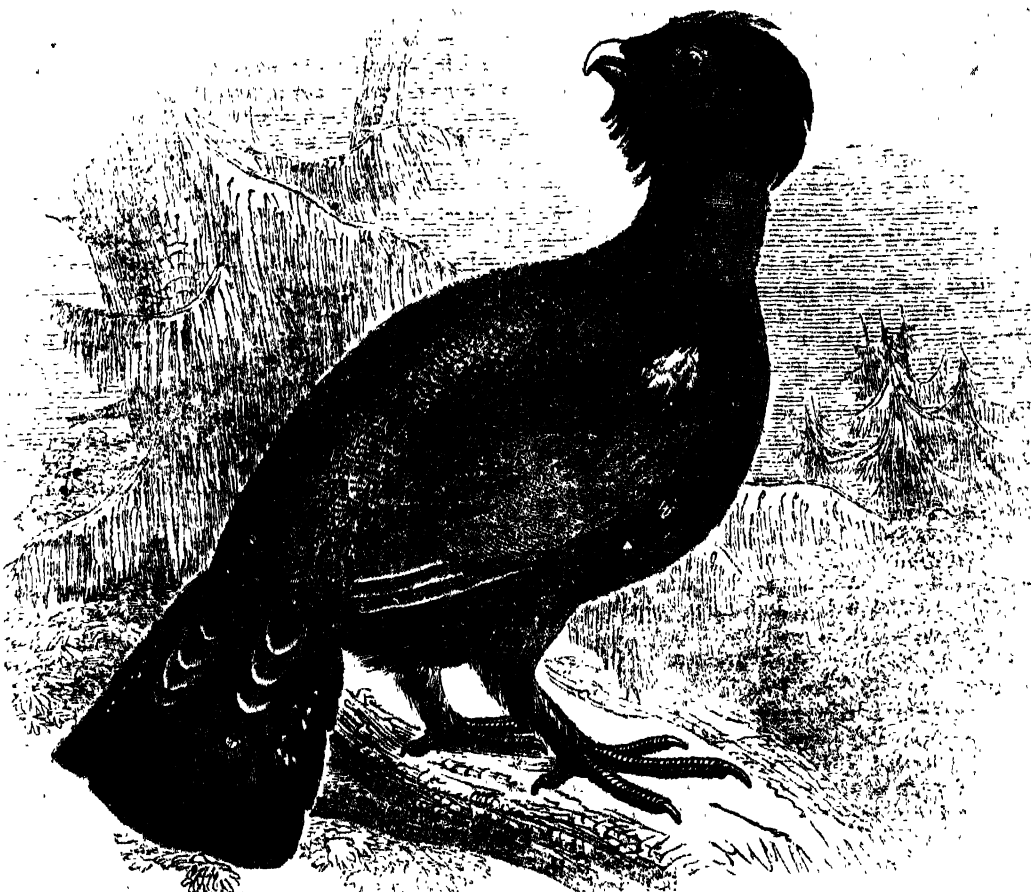
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THE GROUSE OF EUROPE.



[Capercailzie, or Cock-of-the-Wood.]

Black-game shooting begins about this time everywhere, except in the New Forest, and in Devon and Somerset, where it does not commence till the 1st of September. This information may not perhaps dispose any great number of our readers to prepare to fag after the black grouse through the stiff heath in hot weather, which Colonel Hawker calls the hardest labour of any sport he knows; but as grouse will now, either alive or dead, begin to come under the notice of many, the present seems a very seasonable opportunity of presenting our readers with some particulars in the natural history of the European grouse.

Few European birds have more points of interest in their history than these to which we now invite attention. We allude to the grouse strictly so called, excluding the partridges and quails, &c., which Linnæus associated with them in one genus under the name of *tetrao*. The term *tetrao* is however at present so restricted as to include only a certain group of grouse, while to another, comprehending the ptarmigan, red grouse, or moor-game, &c., the generic title of *lagopus* (Λαγὼς, a hare, Πους, a foot) has been accorded. The grouse, under which term we allude to the genera *tetrao* and *lagopus*, constitute a tribe peculiar to the northern and temperate latitudes of the globe. Dense pine-forests are the abode of some,—others frequent the wild tracts of heath-clad moor-land,—while the patches of vegetation scattered among the high rocky peaks of the bleak mountain afford a congenial residence to others. Patient of cold, and protected during the intense severities of winter by a provision which we shall presently more particularly detail, they relieve by their presence the sternness of the frozen solitude, from which other birds have retired, and give animation to the most desolate scenery.

The high latitudes of North America produce numerous species of grouse, most of which are peculiar to that continent; two or three of these are also found in the parallel latitudes of Europe: while, on the other hand, there are in Europe several species peculiar to our portion of the globe, and of these one at least is very limited in the extent of its habitat. Thus the *lagopus saliceti*, or willow-grouse, which inhabits the fur-countries from the 50th to the 70th parallels of latitude, is also abundant in Scandinavia, Kamtschatka, Greenland and Iceland. The *T. rupestris*, or rock-grouse, which abounds in Melville Island and the Barren Grounds, is common in Sweden and Norway; while on the contrary the black grouse (*tetrao tetrix*) is peculiar to Europe, as is also the capercailzie (*tetrao urogallus*);

and the red grouse (*lagopus Scoticus*) is even more circumscribed, being exclusively a native of the British Islands.

We shall proceed to offer a few observations respectively on the two groups into which the tribe of European grouse naturally divide themselves: these we may characterize as *forest-grouse*, comprehended in the genus *tetrao*, and as *moorland* or *ptarmigan grouse*, comprehended in the genus *lagopus*. It is in the genus *tetrao* that the largest of the tribe are found; but this genus is by no means so numerous in species as that of *lagopus*. The pine and birch forests which clothe the mountains and hills of the colder latitudes are their abode; they seldom visit the open country, but prefer the densest recesses of the wood, where they perch with ease upon the branches. Shy, recluse, and wary, they retire from the presence of the intruder, and seek refuge in the deep wooded glens which intervene between the mountains, where vast morasses teem with a luxuriant growth of willow, alder, birch, and trees of a similar nature. Hence it requires much address and caution to approach within range of gunshot. Their food consists of the tender shoots of pines, the seeds of plants, the berries of various species of *vaccinium* and *arbutus*, the buds of the birch and alder, leaves and grain. In their habits they are polygamous. As the breeding season draws on, the male birds choose each for themselves a certain territory, from which the possessor drives every intruding rival. Desperate combats are then continually taking place, the weaker or less fortunate being obliged to quit the precincts of the station; and it not unfrequently happens that the contest terminates only with the death of the defeated. Secure in his temporary dominion, the proud victor raises a call of invitation morning and evening, which resounds through the wood, and brings his bevy of mates to the selected spot. The nest is very simply constructed, consisting of dried grasses, and placed upon the ground, sheltered among the herbage.

The genus *tetrao* is characterized, among other points, by a peculiarity in the structure of the toes, which deserves especial attention. The torsi are covered with hairlike feathers, but the toes are bare, having their edges strongly pectinated, or fringed with an array of rough prominences; for this remarkable fact it is difficult to assign a reason perfectly satisfactory to inquirers; our own opinion is, that it is a provision for enabling the birds to grasp securely the smooth branches of the trees on which they perch, but more especially when they are covered with frozen snow, or a coat of glassy ice, which in the forests of the north is a common winter occurrence.

In their flight the forest grouse are rapid for short distances, but the motion of their wings is accompanied by a whirring noise, like that of the pheasant. The scarlet-fringed skin above the eye, so peculiar an ornament in the grouse tribe, they possess in great perfection; the beak is stout, short, and convex; the nostrils are hidden beneath a tuft of close small feathers, enveloping the base of the upper mandible.

Two species of this genus are indigenous in the British Islands;—one is the black grouse, common in the pine woods of Scotland, and of the northern counties of England, and elsewhere;—the other, we regret to say, is no longer a sojourner among us,—it is the capercailzie, or cock-of-the-wood. Formerly in Ireland, and still more recently in Scotland, this noble bird, the most magnificent of the whole of the grouse-tribe, was abundant in the larger woods;—indiscriminate and wanton slaughter, and an unremitting system of harassment, have caused its extirpation. It still abounds in the pine-forests of various portions of the north of continental Europe, such as Sweden and Norway. Selby informs us, that "the last individual of this species in Scotland was killed, about forty years ago, near Inverness."

Neither the cock-of-the-wood nor the black grouse undergo any marked change in the colouring of their plumage on the commencement of winter, as we shall find to be the case with several of the ptarmigan grouse. Natives of a cold climate, still they are not exposed to such severities as their mountain-dwelling relatives, which have to brave the unbroken storm of winter among the crags and rocks of their northern altitude. The forest, with its thick underwood, shields them from the fury of the tempest; and as it affords abundance of food, they are seldom forced to wander far in search of their maintenance, or to quit their habitual places of resort.

Besides the two species already mentioned, there is a third species indigenous in Norway, and other portions of the North, termed *tetrao medius*. "Some of the older writers considered this bird to be a hybrid produced between the wood-grouse (capercailzie) and the black-grouse, and had named it accordingly. Modern authors have, however, established its distinction as a species; and the female and its egg are now known. Notwithstanding the general resemblance between these two large wood-grouse, they are decidedly and obviously different. In the *tetrao medius* the beak is black; the shining feathers on the front of the neck and breast are of a rich Orleans plum colour; and of the eighteen feathers of the tail, the outer ones are the longest. In the cock-of-the-wood, the beak is white, the feathers on the front of the breast are dark glossy green, and the centre feathers of the tail are the longest." Besides these differences, it exhibits several others in the anatomical structure of the *trachea*. There is reason to believe that this bird was formerly known in Scotland, as Mr. Fox, in his 'Synopsis of the Newcastle Museum,' quotes a note of the late Mr. Tunstall, which states that "he knew some old Scotch gentlemen who said they remembered that, when young, there were in Scotland both the cock-of-the-wood and the *tetrao hybridus*" (*medius*). This interesting bird is occasionally brought with the capercailzie from Norway into the London markets.

[To be continued.]

VULGAR ERRORS.

The consideration of what are properly called "vulgar errors" is attended with perhaps an equal proportion of pain and pleasure. It cannot but be exceedingly painful, in running over an extensive list of absurdities, fooleries, and superstitions, to recollect that all of them were, at no distant day, little less than articles of faith to the mass of the people, and, as such, too surely indicate how little education had done for them, and that

> "Knowledge to their eyes her ample page,
> Rich with the spoils of time, did ne'er unroll."

It shows even more: it shows not only that they were uninformed, but that all the natural powers of their minds lay inert, seemed to have been bestowed in vain, and afforded little trace that they existed at all. It is true that many errors which we now call vulgar were in those days shared with the common people by many in the higher walks of life; but even in the higher and middle walks of life a large proportion were wholly uninstructed; and, in general, the distinction between the small number of men who had their minds opened, and the great mass whose minds were closed, was so very obvious as to lessen our surprise at the language of contempt with which the few thought it meet in those days to speak of the many. Poets described them as a "rascal rabblement," and philosophers spoke of their "feeble understandings," and their "un-

qualified intellectuals." "Certainly," says Sir Thomas Brown in his 'Inquiries into Vulgar and Common Errors,' "he that considereth will easily discern how little of truth there is in the wayes of the multitude;" and, in another place, he thus, with sincere conviction, speaks of the body of the people: "Their individual imperfections being great, they are moreover enlarged by their aggregation; and being erroneous in their single numbers, once huddled together, they will be error itself; for being a confusion of knaves and fools, and a farraginous concurrence of all conditions, tempers, sexes, and ages, it is but natural if their determinations be monstrous, and many ways inconsistent with truth; and therefore wise men have always applauded their own judgment in the contradiction of that of the people; and their soberest adversaries have ever afforded them the style of fools and madmen; and, to speak impartially, their actions have made good these epithets."

The poor people! Those were the days in which not only courtiers but philosophers could speak of the multitude as of an inferior order of men. Perhaps they thought there was no chance that any rays of light should ever penetrate the seven-fold darkness which enveloped the public mind; or, quite as likely, they thought it desirable that the public mind should remain for ever darkened. Certain it is that those old writers, who the most distinctly attribute the errors of the multitude to their *uncultivated* understandings, do not advocate, or even hint at, the necessity of any large measure for extending intellectual culture to them and diffusing information among them, but content themselves with inditing long and laborious treatises on the subject of some particular classes of errors, which treatises it was a moral certainty that not one of the multitude would be the better for. They were indeed expressly addressed to educated and learned men. It was like discoursing with Peter about the errors of John; but it was not telling John anything about his own errors, and still less was it talking with Peter about the importance of removing error from John's mind, and of keeping error from the minds of John's sons and daughters.

It is to us a matter of daily rejoicing that this state of things has undergone considerable change. The public mind has been partially cultivated, and is undergoing the process of still further cultivation. The propriety of admitting the people to the enjoyment of their intellectual rights was, for a time, very strongly disputed, but it is seldom at present openly questioned. One consequence of this has been that the popular errors which, less than a hundred years since, were common in towns and villages, and which still lingered among the middle classes, are now rarely to be met with except among the remnant of uninstructed people in the remote parts of the country, and chiefly amongst the rural population. They have been eradicated, not because they were disproved by facts, for many of them did not admit of being thus negatived, but because the popular mind has leaped forth from that infant state in which it was unable to distinguish the right hand from the left. It is now increasing its power to choose between good and evil, and to distinguish the improbable from the true, even where no positive evidence from facts has been obtained. If, therefore, we should, on some future day, recapitulate some vulgar errors, it will certainly be with the hope of some present use to those by whom such errors may still be entertained; but principally to show what weeds grew up in the mind of the people while it was for ages left a "waste howling wilderness."

For the present we shall content ourselves with condensing a few of the statements given by Sir Thomas Brown in the eleven chapters of the book already mentioned, which he devotes to the investigation of the causes of common errors. Omitting the general considerations with which he commences, and in which he treats of the causes of error as found in "the common infirmity of human nature," and in "the erroneous disposition of the people," we descend to what he calls "the nearer causes of common errors, both in the wiser and common sort."

Misapprehensions and False Deductions.—Many errors arise from simple mistakes or misconceptions in the first or second instance. Thus the origin of the idea of those imaginary beings called centaurs, half horses and half men, arose from the circumstance that "when some young Thessalians were beheld afar off while their horses watered, that is, while their heads were depressed, they were conceived by the first spectators to be but one animal; and answerable thereunto have their pictures been drawn ever since." But error has still more largely arisen from false deductions from ambiguous or metaphorical expressions. Thus, when Pythagoras enjoined abstinence from beans to his disciples, many of them understood that he interdicted the use of that pulse; yet it is known that he was himself fond of beans, and ate them freely;—and Plutarch observes that he had no other intention than to discourage his followers from undertaking the magistracy or offices in the state, for the magistrates and public officers were then elected by beans in many parts of Greece. "The circle of this fallacy is very large," as Brown remarks, and that which refers to fraudulent or inconsequent deductions is almost equally extensive. But this part of the subject properly belongs to logic.

Credulity.—This is a fruitful source of error. It consists in yielding an easy assent, without examination, to whatever is stated. "It is," says Brown, "a weakness of the intellect most discoverable in vulgar heads;" but adds, with no less truth than candour, "yet hath it sometime fallen upon wiser brains and great advancers of truth." He illustrates this by the fact that the learned Arabians, Geber, Avicenna, and Almanzor were satisfied with the account which the Koran gives of the nature and cause of earthquakes, namely, that they were owing to the motions of a great bull, upon whose horns the earth is poised.

Incredulity, in the opinion of our author, is about as great a source of error among the learned as credulity is among the vulgar.

"*Supinity*," as Brown calls it, or a neglect of inquiry into even the matters concerning which we doubt;—"rather believing than going to see, or doubting with ease and *gratis*, than believing with difficulty and purchase." In the page which our author devotes to this subject, he expatiates with much force and justice upon the sin and shame that men should on any subject continue, from mere indolence, to entertain doubts which it is in their own power to satisfy.

Respect for Antiquity.—It is exceedingly interesting to observe a writer early in the seventeenth century stating opinions on this subject, which must have been considered very bold at the time; but which now begin to be pretty generally admitted. He says, "The mortallest enemy unto knowledge, and that which hath done the greatest execution upon truth, hath been a peremptory adhesion unto antiquity, and more especially the establishing our belief upon the dictates of antiquity." This superstitious looking back of present ages upon ages past seems to Brown so grievous an abuse, that he devotes a whole chapter to the subject. He says,—"Men hereby impose a thraldom on their times which the ingenuity of no age could endure, or indeed the presumption of any did ever yet enjoin." Again,—"Men that do adore times past consider not that those times were once present,—that is, as our own are at this instant,—and we ourselves unto those to

come, as they unto us at present: as we rely on them, even so will those on us, and magnify us hereafter who at present condemn ourselves. And, to speak impartially, old men, from whom we should expect the greatest example of wisdom, do most exceed in this point of folly; commending the days of their youth, which they scarce remember; extolling those times which their younger years heard their fathers condemn, and condemning those times which the grey heads of their posterity shall commend."

Sir Thomas Brown proceeds to contend that the ancients, whose testimonies we regard as oracles, were often, even the acutest of them, guilty of inaccuracies and errors, which may be detected not only by "critical and collective reason, but by common and country observation." Thus Aristotle, in a single section, proposes three problems, every one of which is founded on error. First, he asks, "Why a man coughs, but a horse or cow does not?" Now there is no husbandman who does not know that horses and cows *do* cough. A similar error is involved in his question, "Why horses, asses, cows, and other beasts of labour do not eructate as man does?" His third problem, "Why man alone has grey hairs?" is contradicted by common observation, which shows that there are several animals which do become grey with age. Equally contrary to common observation is his assertion that salt is easiest dissolved in cold water. To prove to his contemporaries that "the ancients were but men, even like ourselves," Brown goes a little out of his way to show that the ancient writers were terrible and wholesale plagiarists from their predecessors, proving, as he says, that "plagiary had not its nativity with printing, but began in times when thefts were difficult; and the paucity of books scarce wanted that invention."

The tendency of the ancients, especially the Greeks, to give a fabulous turn to their statements is another reason why their accounts should be received with caution. We cannot refrain to give a few of Brown's elucidations of ancient fables in his own quaint language.

Orpheus.—"The fable of Orpheus, who by the melody of his music made woods and trees to follow him, was raised upon a slender foundation; for there was a crew of mad women retired into a mountain, from whence, being pacified by his music, they descended with boughs in their hands."

Medea.—"That Medea, the famous sorceress, could renew youth, and make old men young again, was nothing else but that, from the knowledge of simples, she had a receipt to make white hair black, and reduce old heads into the tincture of youth again."

Niobe.—"That Niobe, weeping over her children, was turned into a stone, was nothing else but that, during her life, she erected over their sepulchres a marble tomb of her own," [namely, for herself].

Actæon.—"When Actæon had undone himself with dogs and the prodigal attendants of hunting, they made a solemn story how he was devoured by his hounds."

Authority.—Sir Thomas Brown proceeds to contend, with effect, that "not only is a resolved prostration unto antiquity a powerful enemy of knowledge, but any confident adherence unto authority, or the resignation of our judgments upon the testimony of any age or author whatsoever." After going through some statements to show how far authority may be received in the various departments of science, he proceeds to inculcate caution in the use of authority, by instancing some gross errors, into which even writers of good reputation had fallen. With two or three of these we shall now conclude. Franciscus Sanctius affirms, from his own observation, that a nightingale has no tongue; "which if a man shall for a while believe upon his experience," says our author, "he may at his leisure refute it by his own." Leonardo Fioravanti, an Italian physician, claims the merit of having discovered that pellitory of the wall will never grow in presence of the north star, an assertion which any one who knows the star and the plant may correct. Pierius gravely recommends, as a cure for the sting of a scorpion, that the patient should sit upon an ass with his face towards the tail, and then the pain would leave the man and pass into the beast. The poet and physician Sammonicus recommends, as a cure for the ague, that the patient should lay the fourth book of 'Homer's Iliad' under his head at night. Another learned physician assures his readers that a person may see in the dark only by boiling the eye of a hedgehog in oil and preserving it in a brass vessel. There is certainly no room to doubt that loose and marvellous statements like these, issuing from men of learning and reputation, have given occasion to many of the vulgar errors, by which our amusement and regret have often been almost equally excited.

ANECDOTES OF ANCIENT EATING.

In the year 1780, Mr. Samuel Pegge printed an old manuscript on cookery, under the title of 'The Fame of Cury, a Roll of Ancient English Cookery, compiled, about A.D. 1390, by the Master Cooks of King Richard II. Presented afterwards to Queen Elizabeth by Edward Lord Stafford.' The preface to this work contains a great deal of information, collected by the editor, on what we may call the 'History of Eating.' A more extensive view of the subject was afterwards taken by the Rev Richard Warner, in the 'Preliminary Discourse' to his 'Antiquitates Culinariæ; or, Curious Facts relating to the Culinary Affairs of the old English,' published in 1791. It has occurred to us that, from these works, from the 'Household Books' published by the Society of Antiquaries, from the various old cookery books, and from other sources, a few curious and amusing papers might be prepared for the readers of the 'Penny Magazine,' not many of whom have probably ever seen the works in question. It is impossible to comprehend in one paper the details in which the interest of the subject chiefly lies; but we hope so to manage as to render each of the few papers we may give to the subject quite distinct from the others, by making it refer to a different people or a different period. We begin with the Jews and Greeks, and must give another paper to the Romans; but shall afterwards confine our attention to the British, Saxon, Danish, Norman, and English inhabitants of this country.

We do not feel it necessary to have anything to do with the ingenious discussions about the time when man first began to eat animal food,—whether before or after the Deluge. We must, however, turn to the Book of Genesis for the first account of a dinner. It is the description of the meal which Abraham set before the strangers whom he had invited to his tent. "And Abraham hastened into the tent unto Sarah, and said, 'Make ready quickly three measures of fine meal, knead it, and bake cakes upon the hearth.' And Abraham ran unto the herd and fetched a calf, tender and good, and gave it to a young man, and he hasted to dress it. And he took butter and milk, and the calf which he had dressed, and he set it before them; and he stood by them under the tree, and they did eat*." This picture of a patriarchal entertainment exhibits none of the refinements of cookery, nor perhaps does it come up to our notions of good cheer; but it does present a very pleasing picture of comfortable living. Warner says, that the only singular cir-

* Genesis xviii. 6, 7, 8.

cumstance in this account is the sauce of butter and milk served up with the calf. Harmer, in his 'Observations' adduces the following anecdote, in illustration of this point, from Ockley's 'History of the Saracens:'—

"Abdolmelick, the caliph, upon his entering into Cufah, made a splendid entertainment. When he was sat down, Amrou, the son of Hareth, an ancient Mechzumian, came in; he called him to him, and, placing him by him upon the sofa, asked him what meat he liked best of all that he had eaten. The old Mechzumian answered, 'An ass's neck, well seasoned and well roasted.' 'You do nothing,' says Abdolmelick; 'what say you to a leg or shoulder of a sucking-lamb, well roasted, and *covered with butter and milk?*'"

Warner is mistaken in considering the sauce the only singular part of the entertainment. It is still more singular that the flour had to be kneaded and baked, and the calf to be killed and dressed before the entertainment could be furnished. Of the former particular there is a full explanation in the paper "Bread in the East" in No. 113 of the 'Penny Magazine,' and the latter practice of killing meat just before it is dressed is also still in use in the East, as the writer himself is able to testify, having often seen a sheep in the pot within half an hour after it was taken from the flock, and completely devoured within two hours. This is because animal food, not being an article of common consumption in eastern countries, it is seldom, except in large towns, to be found ready for use, particularly as the general heat of the climate prevents meat from being kept long.

Among the Israelites different combinations of meat were in time introduced, and pottage and savoury dishes invented. Oil, honey, milk, and butter continually occur in the notices of their meals. But their fare does not appear to have been at any time luxurious; nor does it seem that they used much nicety in the preparation of their food. Their most esteemed meats were the calf, the kid, and the lamb. The last is particularly mentioned by the prophet Amos in his list of Jewish luxuries. Modern travellers still notice the exquisite delicacy of the flesh of the lamb and kid in Palestine.

It is hardly possible to speak with tolerable precision concerning the diet of the Greeks; but there are a few facts which seem better established than others, and which it may be desirable to state in this place. The food of the Greeks appears to have been for a long time of a very simple description. Oxen, sheep, and hogs supplied their tables; but the method of preparing them was exceedingly plain. Their meat was commonly roasted, and served up without decoration, sauces, or any other accompaniment. Our earliest hints concerning the cookery of the Greeks are from passages in Homer, Aristophanes, &c. They afterwards possessed many authors who wrote on the subject; but as then, and subsequently, dietetics were considered a branch of the study of medicine, so many of these authors were physicians, and the cook was undoubtedly a character of high reputation at Athens. The Athenians maintained their plain style of living until the later periods of their freedom; but as they increased in wealth, luxury crept in among them. One of the choice dishes of the Greeks was made of eggs, cheese, and garlic beaten up together: they had also a composition of eggs, honey, cheese, and rice, which they called *thrion*, because it was served up in fig-leaves. It appears that, in the heroic ages, as described by Homer, fish was not eaten but as a matter of necessity. But in after times fish was considered a luxury at Athens, where there was a regular fish-market, furnished with eels from Bœotia, red mullet caught off Cape Zoster, &c. Fruit also, such as figs, was there in much repute. Athenæus, who is the great authority on the subject of ancient gastronomy, gives a full account of an Attic feast; but from the frequent use of silphium (supposed to be assafœtida) in their dishes and sauces, it seems likely that a modern epicure would have turned from it with abhorrence. From all we can learn, it appears that the Athenians, in their high and palmy state, were less anxious to entertain their guests with rich dishes and a profusion of wine, than by useful and interesting conversation, by the recitation of inspiring and patriotic odes, and by the friendly disputations of poets, historians, and philosophers. It seems that the frugal living of the Athenians even went so far as to attract the ridicule of some of their more wealthy neighbours, among whom "to live like an Athenian" was a proverbial expression applied to those who were remarkable for their parsimonious living.

Temperate as the Athenians were, their meals were perfectly luxurious compared with those of the Spartans. In the conviction that the luxuries of the table had a tendency to debilitate both the mind and the body, their lawgiver (Lycurgus) took effectual care to banish from their public tables all but the most coarse and homely articles of food, which could only be tempting to those accustomed to them from long habit, or suffering the pangs of actual hunger. He directed that the people should take their meals at public tables, where all ate in common of the same food. There were on an average fifteen persons at each table. Every one was to bring in monthly a bushel of meal, eight gallons of wine, five pounds of cheese, two pounds and a half of figs, and a little money to buy flesh and fish. If any one happened to offer a sacrifice of first fruits, or to kill game, he sent part of it to the public table; for, after a sacrifice or a hunting, a man was at liberty to sup at home.

The dish that was in the highest esteem among the Spartans was called *melas zomos*, or "black broth," a name which has long excited the curiosity of the learned. What were the precise ingredients of this mess has never been determined with certainty. We remember an old traveller, who, on observing the use of coffee for the first time in the East, conjectured that it was the black broth of the Lacedæmonians! Julius Pollux, the preceptor of the Emperor Commodus, in his 'Onomasticon,' says that this famous mess consisted of blood thickened in some particular way. Dr. Lister, in his 'Notes to Apicius,' supposes it was hog's blood; and if so the dish must have had no remote resemblance to the *black puddings* of our own times. Whatever it was, it could have formed no very alluring dish. We are informed that a citizen of Sybaris having tasted their fare, declared that it was no longer astonishing to him that the Spartans should be so fearless of death in battle, since any one in his senses would much sooner die a thousand deaths than continue to exist on such miserable food.

Plutarch relates that a king of Pontus, having heard of this celebrated broth, purchased a Lacedæmonian cook to make some of it for him. But when he came to taste it he expressed his detestation of the mess in very strong terms; on which the cook observed, "Sir, to acquire a relish for this broth, it is necessary first to bathe in the Eurotas;" meaning that the hardy habits of the Spartans gave a zest to this fare which it could not otherwise possess. The same writer informs us, that the old men were so fond of it, that they ranged themselves on one side to eat it, leaving the meat to the young people.

The supper, which was the chief meal among the Greeks, consisted of three parts. The first course was composed of herbs, eggs, oysters, and a pleasant and sweet beverage tempered with new wine, similar to the drink used by the Romans for the same purpose (as a

whet before supper), and called by them *promulsis*. The second course seems to have been more substantial, flesh and made-dishes being served up. The third consisted chiefly of sweetmeats.

The Greeks, at their larger entertainments, were accustomed to have several officers who presided over and regulated their entertainments. The Symposiarch, or president, was a person chosen from among the guests, and was usually the one who appeared to be the most facetious, convivial, and hard-headed of the party. It was his business to encourage cheerfulness, but to preserve sobriety among the guests; not preventing moderate indulgence, but carefully guarding against intoxication. This sort of duty could, of course, be much better performed by one of the guests than by the master of the house himself, whose interference in the matter might be construed into a desire to spare his own pocket. There was another officer, called the king (*Basileus*), whose function it was to determine the laws of good fellowship, and to see that each person drank his proportion of wine. Then there was another person who divided the food, and gave to each guest his due proportion; and another who distributed the wine among the guests. The Grecian feasts being regulated in this manner, they were not very commonly attended with inebriety; but as it was thought that a certain quantity of wine was necessary to cheer the heart and put the company in spirits, no guest was permitted to remain with the party if he refused to drink the customary potations. There are certainly some particulars in this account of a Greek entertainment which are well worthy of our imitation, particularly the judicious subdivision of duties, nearly all of which it is our own custom to throw upon one person.

WORCESTER

The city of Worcester, the capital of the county of the same name, is pleasantly situated on a gradually ascending ground on the eastern bank of the Severn, at the distance of 103 miles N.W. by W. from London. It is certainly one of the most ancient cities of England, and popularly claims to be the sixth in extent and population. This is a mode of estimating cities which is apt to convey an illusive notion of their importance; for although, in this instance, the rank of Worcester, as a city, may not be unfairly stated, it is requisite to recollect that there are many towns not ranked as cities which greatly exceed Worcester in population and extent.

That the place was either a Roman station, or that the Romans were encamped there, seems tolerably evident from the addition of *Ceastre*, or *Cester*, which the Saxons uniformly applied to such spots. This is also confirmed by the Roman antiquities which have been found in the vicinity. Some antiquarians even contend that the site was previously occupied by the Britons: but this seems more uncertain than the preceding conclusion. There is no doubt, however, that the Saxons possessed the place, and gave it the name of Wigerna, Weogerna, or Wigorna-ceastre, which afterwards became corrupted into Wircester, and ultimately Worcester. Wiga-erne signifies in Saxon the warrior's lodge, the hero's place of retirement.

This place belonged to the kingdom of Mercia, and was the seat of a viceroy, who administered the government of a district comprehending the present counties of Worcester and Gloucester, and part of Warwick. Under them a castle was erected, and the place fortified with walls. In the early part of King Alfred's reign the city was ruined by the Danes; but was rebuilt about the year 894 by Ethelred, the ealdorman of Mercia, and son-in-law of the king. The city was again pillaged and burnt by the Danes in the reign of the Danish king Hardicanute, in consequence of the resistance of the inhabitants to the levy of an exorbitant tax. The inhabitants fled to an island (Bevere) in the Severn, and afterwards returned and rebuilt their city. The city was burnt down again in the year 1113, and also a great part of it in 1133. Six years afterwards, it was sacked and burnt by the Empress Maude during her contest with King Stephen; the latter, in his turn, took and burnt the place in 1149; and in 1189 the city was once more destroyed by fire. Great part of the city was again burnt in 1202; but on this last occasion, the walls of the cathedral being of stone, were left standing. In 1216, when Louis, the son of the king of France, was invited to England by the barons, the leading men of the county declared for him, and received a governor of the city for the Dauphin. Ranulf, Earl of Chester, took the place by surprise for the king: the soldiers of the garrison were forced from their refuge in the cathedral, and the inhabitants were compelled, by extreme tortures, to discover their treasures. In the same year King John was buried here. In 1263 the city was taken by the barons then in arms against Henry III.: they spared the church, but rifled the houses of the citizens, especially those in the Jews' quarter (the Jewry), killing many of the Jews, and imprisoning others. Next year the king was brought hither as a prisoner, after the battle of Lewes, by Simon de Montfort, Earl of Leicester; and, in the following year, Prince Edward (afterwards Edward I.) first raised his standard at Worcester in behalf of his father, and here collected the forces with which he defeated the barons at Evesham. Edward always remained grateful for the assistance the citizens gave him on this occasion, visiting the place several times after he became king, and once holding a parliament there.

About the middle of the fourteenth century Worcester suffered much from pestilence; and in 1401 was burnt and plundered by the troops of Owen Glendowr. In 1471, Queen Margaret (wife of Henry VI.), having been seized by Lord Stanley, after the battle of Tewkesbury, was brought to Edward IV., who was then at Worcester. In 1574 Queen Elizabeth visited the city in one of her "Progresses," and was received with the usual orations and pageants, such as have been described in the recent article on 'Kenilworth.' Opposite St. Nicholas's Church-yard the queen stopped her horse and looked towards the church. The people then cried out, "God save your grace!" Upon which the queen threw up her cap, and said, "I say, God save you all, my good people." In 1637 the inhabitants suffered much from a dreadful pestilence, which obliged them to abandon the city, and shut themselves up in the island of Bevere. In the course of six months above fifteen hundred persons perished. In the war between Charles I. and the parliament, the devoted adherence of Worcester to the royal cause gives it a prominent place in the general history of that period, to which we must refer for particulars. It was the first city that openly declared for the king, and it was the last place where a battle was fought; for it was here that the second Charles made a last stand for the Crown. The day was Cromwell's; he gained possession of the town, and Charles narrowly escaped by the back door of the house in which he was quartered, while Colonel Cobbet was entering at the front to make him prisoner. This victory was what Cromwell was accustomed to call his "crowning mercy." Since this period, the place has shared the general quiet of England.

In pleasantness of situation and general elegance, Worcester is perhaps exceeded by no city in the kingdom, nor is there any which exhibits an appearance of

more neatness and general comfort. This arises from the breadth and regularity of the principal streets, the very large proportion of good private houses, its numerous and showy shops, intermixed with its churches and public buildings. The town is well supplied with water by means of a steam-engine erected in 1810. The streets are well lighted with gas, and excellently paved. The first stone of the pavement was laid in 1281 by Godfrey Giffard, the bishop; and this was long before Canterbury or Southampton began to be paved. The town is connected with the suburb of St. John Bedwardine, on the opposite side of the Severn, by a much-admired stone bridge, of five elliptical arches, built in 1780, at an expense of 29,843*l.* The diameter of the centre arch is 41 feet, while the four others decline in a small proportion to assimilate with the necessary sweep of the segment of that arc which forms the general outline. The chord of this arc from bank to bank is nearly 270 feet, and the clear width of the whole between the parapets is 25 feet, including a flagged path of four feet on each side, which is not only convenient for general use, but forms a very handsome promenade on a summer evening. The avenues on each side of the river have been laid open, and the quays widened to produce an effect in unison with the elegance of this very fine bridge.

The principal object of attention at Worcester is its cathedral. There is some perplexity in the accounts of the early cathedral-church at Worcester. The see was founded in 680 by Ethelred, King of Mercia, and the ancient cathedral of St. Peter was probably erected between that date and 690. The endowments of this cathedral were, in 969, transferred to St. Mary's Minster, or convent, which then became the cathedral; but being unsuitable, a new one was built by St. Oswald in 983, in the churchyard of St. Peter's. This was burnt by Hardicanute's troops in 1041, and the present structure was begun by St. Wulstan in 1084 and finished in 1089. It is recorded that, when Bishop Wulstan saw the workmen pulling down the remains of the previous cathedral, he wept. One of his attendants expostulated with him, reminding him that he ought rather to rejoice, as he was preparing in its place an edifice of greater splendour, and more proportioned to the enlarged number of his monks. He replied:—"I think far otherwise; we, poor wretches, destroy the works of our forefathers only to get praise to ourselves; that happy age of holy men knew not how to build stately churches, but under any roof they offered up themselves living temples unto God, and by their examples incited those under their care to do the same; but we, on the contrary, neglecting the care of souls, labour to heap up stones." To what extent the building suffered in the fires of 1113 and 1202 is not well ascertained; apparently, the shell was preserved and incorporated with the enlarged structure, which, in 1218, was solemnly consecrated, in the presence of Henry III., "to St. Mary, the mother of God, the blessed apostle St. Peter, and the holy confessors St. Oswald and St. Wulstan." It was afterwards enlarged and improved on several occasions.

Notwithstanding all the damages this cathedral has undergone, and the varieties of style and taste which it exhibits, this noble specimen of the simple Gothic is in no common degree interesting. It is so plain in its exterior that strangers are puzzled to define the source of that admiration with which they seldom fail to regard it. This impression may, however, be traced to its height,—its extent,—its just proportions, and the lightness of its architecture, to which the spire-like pinnacles which crown almost every angle not a little contribute. It is in the usual form of a double cross, and its exterior proportions are on a grand scale. The length is 514 feet, the breadth 78, the height 68, and the noble square tower rises from the intersection of the west transept with the nave and choir to the height of 200 feet. It is ornamented at the corners with four lofty pinnacles, and with elegant battlements of light, open work. It is embellished with some curious sculpture on its several sides, and is enriched with canopied niches containing statues of kings and bishops.

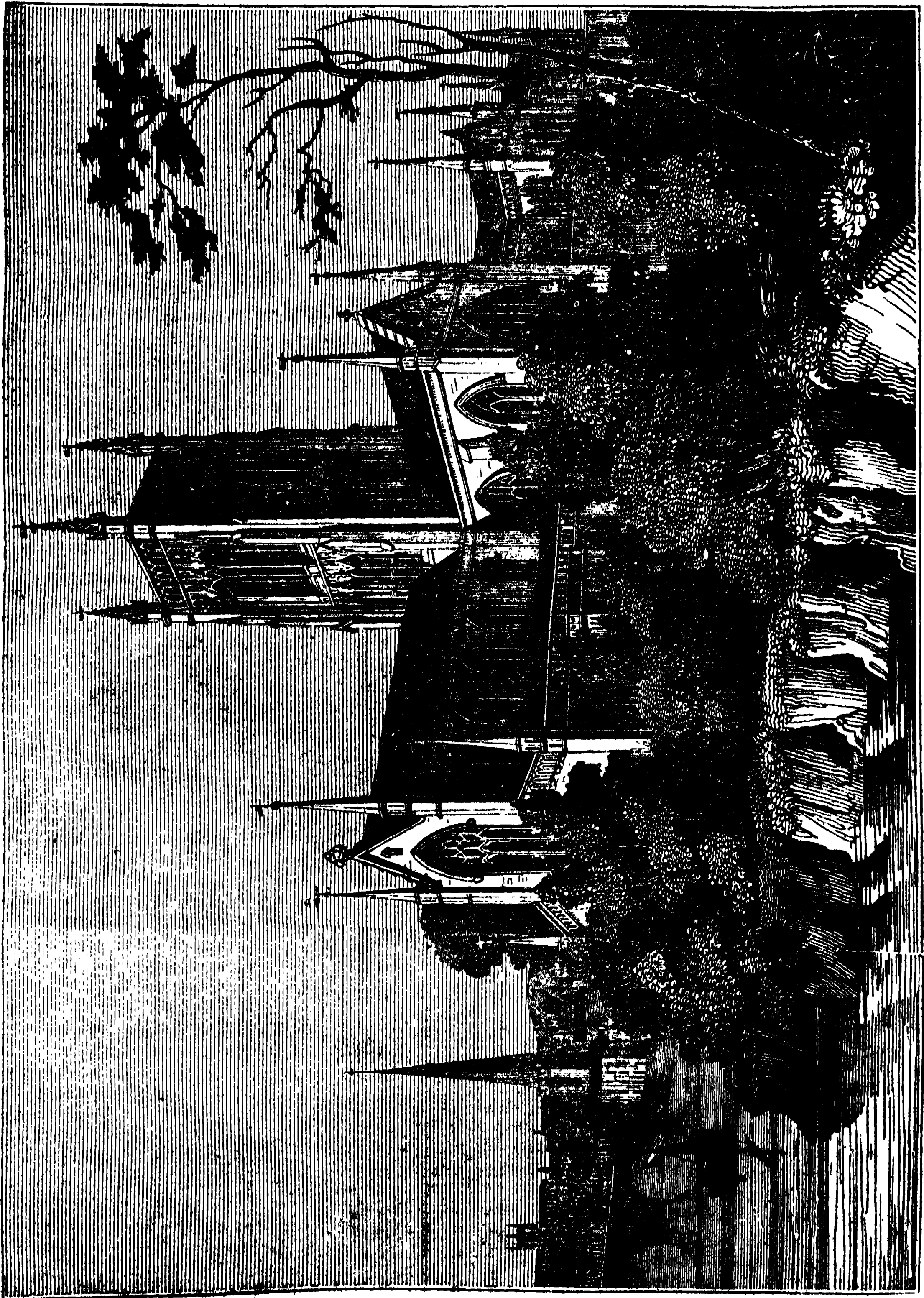
The interior has a remarkably airy and light appearance. The nave, which appears to be the oldest part of the structure, is divided from the aisles by clustered columns and pointed arches, and has a grained roof decorated with heads, flowers, and other figures. The choir, which is in the early English style, has a handsome groined roof, an altar-screen of carved stone, and an octagonal pulpit, the front and sides of which are of stone, richly ornamented with sculptures. The bishop's throne and the prebendal stalls are richly ornamented with tabernacle work. The organ, which stands over the western entrance of the choir, has a very fine tone, and in the trumpet stop is supposed to exceed every other in the kingdom. The Lady Chapel seems about the same date with the choir, and corresponds with it in style. There are monumental chapels in the transepts, one of the most elegant of which is that of Prince Arthur, eldest son of Henry VII. The cathedral is remarkably rich in monuments, several of which are to persons of great eminence in their day. The monument of King John is in the middle of the choir. It consists of an altar tomb, on which is a crowned figure of the king, of the natural size. It was believed that his remains were actually interred in the Lady Chapel, to which it was therefore determined, in 1797, to remove the monument; on opening it, however, a stone coffin was found in which lay the remains of the king in good preservation; but, on exposure to the air, they mouldered away to dust.

There are nine churches in Worcester, and two in the suburb of St. John Bedwardine. We can only mention particularly the church of St Andrew, the spire of which appears in our wood-cut. The church was built in the eleventh century, and is in itself an interesting structure; but we notice it on account of its lofty spire, which forms one of the principal ornaments of the city, and is considered one of the most perfect in the kingdom for its form and construction. The architect was a common stone-mason, a native of the city, named Nathaniel Wilkinson; and it is asserted by very competent judges that he has improved in this work even upon the much-extolled spire of Salisbury Cathedral. This, at Worcester, rises from its base according to the most correct gradual diminution, terminating in the finest point, whereas that at Salisbury is brought abruptly to its apex, as if the builder had been afraid to carry it to the height which its proportions required. The following are the dimensions of this fine structure: height of the ancient tower 90 feet; height of the spire 155 feet 6 inches; diameter of its base 20 feet; diameter under the cap 6 inches and five-eighths.

Besides the churches, the principal public buildings are the town-hall, the city and county gaols, the public library and news-room, and the theatre. All the principal denominations of Dissenters have places of worship at Worcester. There are a large number of endowed almshouses, and several establishments for education, including two free grammar-schools, and several endowed and subscription charity-schools. The number of houses in the city was 4586, according to the census of 1831, when the population amounted to 21997 persons, of whom 11942 were females*. The prin-

* This is somewhat larger than the usual statement, because it includes St. John and St. Michael Bedwardine, the population of which, according to the 'Population Returns,' ought to be included to form a correct estimate.

cipal manufactures of the place are porcelain or chinaware, and gloves. Its products in the former branch of manufacture are much admired for the fineness and transparency of the fabric and the taste of the patterns. The manufacture of gloves is very extensively carried on: it has afforded employment to 8000 persons in the city and its vicinity; but this trade has declined of late years. A considerable commerce is carried on by means of the Worcester and Birmingham Canal; and large sales of corn and hops take place in the markets.



[Worcester Cathedral and City.]

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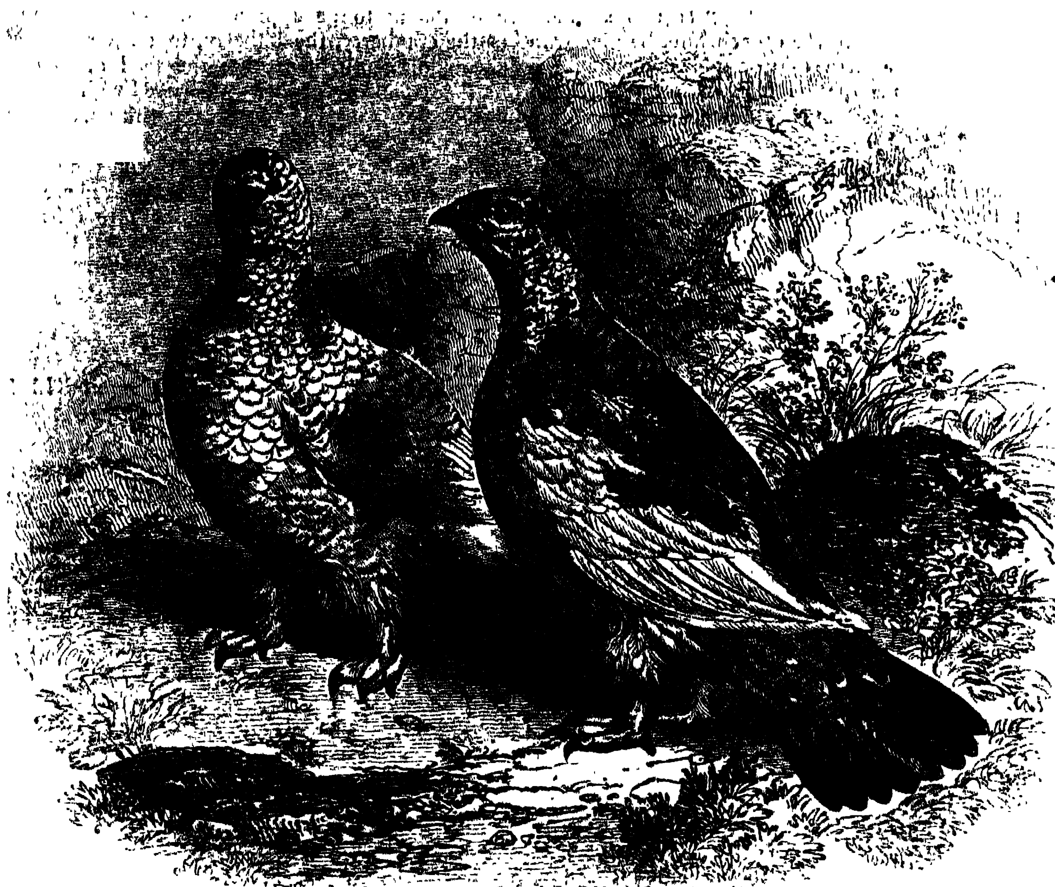
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THE GROUSE OF EUROPE.—No. II.



[Ptarmigan.]

HAVING briefly illustrated the general habits of the woodland-grouse (*tetrao*), we shall now proceed to the next European group, that of the ptarmigan-grouse, or genus *lagopus*. Of this group two species are exclusively indigenous in the British islands, namely, the common ptarmigan (*lagopus mutus*), and the red grouse or moor-game (*tetrao Scoticus*). The common ptarmigan is not only a native of Scotland, but of the higher latitudes of continental Europe, where the willow-ptarmigan and the rock-ptarmigan, &c., are also abundant. In their manners, the ptarmigans mutually resemble each other;—it may be observed, however, that in Scotland (a comparatively temperate climate) the bare and bleak mountains are the permanent abode of the species there indigenous; while, under the intense severity of winter within the polar circle, they all quit the more exposed situations and seek the willows and copse-woods which border the rivers, and stretch over the sheltered vales. Mountain-berries and heath-shoots in summer,—spring-buds and leaves in winter,—constitute their food, in search of which, as well as for the sake of shelter, they burrow beneath the snow. Perhaps the changes of plumage in none of the feathered races are more worthy of attention than those which the ptarmigans undergo. Their full summer plumage is of a yellow, more or less inclining to brown, beautifully barred with zigzag lines of black;—their winter plumage is pure white, except that the outer tail-feathers, the shafts of the quills, and, in our species, a streak from the eye to the beak, are black.

Let us first examine the reasons for such a change, and next the mode in which it is conducted.

The brown patches of heath on the rocky sides of the mountains assimilate well in their broken and blended tints with the summer livery of the ptarmigan; and as concealment from the observation of enemies is one of the laws of nature, this end is, so far, well answered. But when the mountains are covered with snow, when the whole surface of the country is one wide waste of dazzling white, the brown ptarmigan can only escape the notice of its foes by adopting a corresponding dress; so that while crouching in the snow, it will scarcely attract the glance of the Iceland Falcon or the Snowy Owl. Yet the safety which arises from its change of plumage is neither the sole nor the principal motive for that change. This motive we consider to be the provision against the intensity of the cold accruing to the bird by the transition in question. For it not only happens that the plumage turns to white,—but it be-

comes much fuller, thicker, and more downy,—the bill is almost hidden, and the legs become so thickly covered with hairlike feathers, to the very end of the toes, as to resemble the legs of some well-furred quadruped,—the hare of the same wild regions, for instance. It is well known that *colour* greatly influences the rate at which bodies either reflect heat, or acquire and part with it, and that objects which reflect heat the most, part with it the least:—now it has been observed that "reflection takes place most readily in objects of a white colour, and from such, consequently, heat will radiate with difficulty." * * * "If two animals, one of a black colour and the other white, be placed in a higher temperature than that of their own body, the heat will enter the one that is black with the greatest rapidity, and elevate its temperature considerably above the other." * * * But when "these animals are placed in a situation the temperature of which is considerably lower than their own, the black animal will give out its heat by radiation to every surrounding object colder than itself, and speedily have its temperature reduced; while the white animal will part with its heat by radiation at a much slower rate." The winter colour of the ptarmigan therefore, in conjunction with its increased fulness of plumage, tends to limit the expenditure of the vital heat generated in the system; some expenditure, however, must and does take place, beyond that of summer, to meet which the energies of the system are taxed to increase the ratio of its production. This power in the animal system of generating heat, is the principle upon which all animals are enabled to withstand the effect of cold, and to preserve life and health in a low temperature.

With respect to the plumage of the ptarmigan, it may be asked whether this change is effected by a moult, or by a change in the colour of the feathers themselves? Recent experiments have proved beyond doubt, that the change is that of the colour, not of the feathers,—at least, the plumage does not undergo a general moult for that purpose. The moult of those birds which, like the ptarmigan, change their livery, appears to be gradual, in order that the system may not be taxed too much, seeing that it has already to struggle with the debilitating effects of cold. Besides all this, it is scarcely reasonable to suppose that the young ptarmigans should have the brown plumage of their parents to moult when they have only just assumed it. The rationale then appears to be thus:—as the winter approaches the summer dress loses its colour, and gradually passes into white; while, at the same time, an addition of new white feathers increases the fulness of the plumage. On the approach of spring the older feathers of the past year are thrown off, their place being supplied by coloured ones, while the white ones that sprang up as the winter set in, gradually gain the hue which was then denied them. Hence in spring ptarmigans are seen in a livery irregularly particoloured; the new feathers having been developed, while the white ones that endure are as yet uncoloured: these having acquired their tints will be moulted in autumn, so that no individual feather undergoes more than one mutation. It will be seen from this that the moult is never simultaneously performed; but that a partial loss and accession of feathers, except in the depth of winter, is almost constantly taking place.

The red grouse, or moor-game, undergoes no change of colour like the ptarmigan; it however acquires a greater mass of clothing, and its legs are more covered with hairlike feathers in winter than in summer. It would seem either that its native districts, the wild heathy moorlands of our islands, afford more shelter than the favourite localities of the ptarmigan, or that its system needs not this change in order to enable it to resist the cold. It is somewhat singular that this beautiful bird should not be known on the continent, abundant as it is on the moorlands of Scotland, England, and Ireland. Its value, as game, need not be pointed out. The breeding season of the red grouse is early in spring, the pairing commencing in January. The female deposits her eggs, eight or ten in number, in a shallow bed among the heath, and both herself and her mate attend the young with great assiduity. The brood continue in company during the winter, and often unite with other broods, forming large packs, which range the high moorlands, being usually shy, and difficult to be approached. Various berries, such as the cranberry, the bilberry, together with the tender shoots of heath, constitute the food of this species: its rich colouring of chestnut, barred with black, is too well known to need any special description. Our readers must not suppose that the two forms of grouse to which we have alluded are all that exist,—on the contrary, as in every other group of nature, there are here also some which lead off (or indicate affinities) to other groups, forming links in the chain of being. Of these we may allude to the *urophasianus* of North America, and the sand-grouse (*pterocles*) of the arid stony tracts of Turkey, Spain, and Africa.

MINERAL KINGDOM.—SECTION XLIII.

PLATINA.

THIS metal was first brought to Europe by the Spanish traveller, Ulloa, from South America, in the year 1741. It was so named (or rather *platinja*) by the Spaniards from its resemblance in colour to silver, which they call *plata*; and they indicated its supposed inferiority, by one of the terminations they sometimes employ for diminutives. It was first brought to England from Jamaica in 1749, but the specimens were obtained there from Carthagena. Its qualities were soon after investigated by the most eminent chemists in different parts of Europe.

Pure platina has a silvery whiteness, but with an inferior brilliancy of lustre. It was long considered to be the heaviest substance in nature, having a specific gravity of 21·5; that is, being twenty-one and a half times as heavy as water, bulk for bulk; but Professor Breithaupt of Freyberg has described a metallic substance, found in the sand containing platina ore from the Ural Mountains, having a specific gravity of 23·64, and which he ascertained to be native iridium, a rare metal, which we shall presently speak of. He further conjectures, that, had the mass on which he operated been larger and of greater purity, the specific gravity would have been 24·00 or 25·00*. Platina is malleable to a considerable extent, for it may be beat out into very thin leaf, but it is inferior in this quality to gold, silver, copper, and tin. It is the most ductile of all the metals, as was proved by the experiments of the late Dr. Wollaston, described in the 'Philosophical Transactions' for 1813, who succeeded in drawing it to the extraordinary tenuity of $\frac{1}{30,000}$th part of an inch in diameter. His process was simple and ingenious. Those who draw silver wire in large quantities for lace and embroidery sometimes begin with a rod of silver that is about three inches in diameter, and ultimately draw that out so as to obtain wires that are as small as $\frac{1}{60}$th part of an inch in thickness. If a hole be drilled in the silver rod longitudinally, in any stage of the process, having its diameter $\frac{1}{10}$th part of that of the rod, and if a wire of pure platina be inserted so as to fill the hole, it is evident that, by continuing to draw the rod, the platina will be reduced in diameter exactly in the same proportion as the silver; so that, if both be drawn out together till the diameter of the silver is

* See Schweigger's 'Neues gahrbuch der Chemie und Physik,' 1833.

1/300th of an inch, then that of the platina will be only 1/3000th part. Dr. Wollaston followed this method; but as it is difficult to drill a hole in the silver, he formed a cylindrical mould, ¼ of an inch in diameter, fixed in the centre of it a platina wire, previously drawn to 1/100th of an inch, and then filled the mould with melted silver. By successive reductions, he obtained wires of 1/3000 and 1/5000, each excellent for applying to the eye-pieces of astronomical instruments; and in subsequent experiments he obtained a wire as small as 1/30,000th part of an inch. When the drawing was completed, the wire was thrown into nitric acid, which dissolved the silver, leaving the platina behind, upon which it has no action. The tenacity of platina is very considerable, for a wire 1/10th of an inch in diameter will sustain a weight of 590 lbs., gold of the same diameter supporting a weight of 500. Even when extremely fine drawn its tenacity is evident; for, according to Dr. Wollaston, a wire 1/18,000th of an inch supported 1¼ grain before it broke.* It is the most difficult of fusion of all the metals, and is generally described as resisting the strongest heat of a smith's forge or a blast-furnace; but Messrs. Stodart and Faraday state* that it was partially fused by them in furnaces at the Royal Institution. Dr. Marcet fused platina wire in the flame of a spirit-lamp urged by a blowpipe with oxygen gas; and when exposed to the heat of a great galvanic battery, it melts, and then burns, giving out sparks. It is not acted upon either by air or moisture at any temperature, and this property of preserving its purity under such circumstances constitutes its title to be ranked among the noble or precious metals. It is remarkable that, although so dense a body, it is a worse conductor of heat than many substances of inferior density. A piece of platina leaf which is red-hot at one end can be held between the fingers with impunity, but that is not the case with silver and other metals of greatly-inferior specific gravities.

The ore of platina was, for a long time, known only in the form of grains, with now and then some rounded lumps, of small dimensions, disseminated in alluvial soils, like stream-gold and stream-tin. But Boussingault, a French naturalist, who has been for some years carrying on many interesting scientific inquiries in South America, found platina associated with gold in veins traversing a species of granite in the province of Antioquia; and Professor Von Engelhard has ascertained that the matrix of the platina of the Urals is a syenitic greenstone porphyry, that is, a member of the trap-family of rocks. The two great sources from which we derive this metal are the provinces of Choco and Barbacoas, in the north-western part of Columbia, adjoining the Isthmus of Panama, and in a district of the Ural Mountains,—that range which extends in a north and south direction nearly from the shores of the Caspian to the Arctic Ocean, separating European from Asiatic Russia. The platina of Choco is found principally on the left bank of the river Cauca, in the same alluvial soil from which the chief part of the gold of New Granada is obtained. For a long period its value was unknown, and, in separating the grains of gold, it was thrown away with the sand and pebbles, so that the quantity lost must have been immense. The grains are small, and lumps are very rare; but there is a specimen in the royal cabinet at Madrid which weighs 11,641 grains, or rather more than two Troy pounds. The platina of Russia is found on the eastern slope and in the central and northern part of the Ural Mountains, more particularly in the province of Jekatherinburg; and Nishnei-Tagilsk, in lat. 58° 41′, is the central point of a district belonging to Count Demidoff, where there is an alluvial soil extremely rich in gold and platina, and which, according to M. Von Humboldt, has a remarkable similarity to the platina-district of Choco abovementioned. A lump was found near Nishnei-Tagilsk which weighs above 21 Troy pounds, and is now in the museum at Petersburgh, and lumps of smaller size are not uncommon. The quantity of platina obtained from the Ural district, according to M. Von Humboldt, was as follows:—

	Poods.	lbs.		lbs. Avoird.
In 1828,	93	33	which is equal to about	3378
1829,	78	31	„ „	2836
1830,	105	1	„ „	3780

Platina, in small quantity, has been found in the alluvial soils in which the diamonds of Minas Geraes, in Brazil, are met with, and also in the island of St. Domingo. Vauquelin found it in the silver-ore of Guadalcanal in Spain.

In the analyses of the ore brought from South America, four new metals were discovered, viz., PALLADIUM and RHODIUM, in 1803, by Dr. Wollaston, and OSMIUM and IRIDIUM, in the same year, by Mr. Smithson Tennant. Berzelius, in more recent analyses, has found these four metals in the platina of the Urals. Dr. Wollaston mentions that some platina ore brought from Brazil was found by him to be nearly pure, and among the grains were some of native palladium. Of these four metallic bodies rhodium is the only one which has hitherto been used in the arts. A series of interesting researches on different alloys of steel, conducted, in the laboratory of the Royal Institution, by Mr. Stodart, the eminent cutler, and Mr. Faraday, are described in the 'Philosophical Transactions' for 1822. Alloys with rhodium have been made in the large way, and they say that they are perhaps the most valuable of all, but, owing to the scarcity of the metal, they cannot be brought into general use. Some articles of fine cutlery were made, and also pens, which went by the name of "rhodium pens." Alloys were formed with osmium, iridium, and palladium. A proportion of 1/100th part of palladium produces a very valuable steel for making instruments that require perfect smoothness of edge. The best proportion of alloying metal for edge-tools was found to be one part in the hundred. An alloy of platina produces a steel of excellent quality.

To obtain pure platina from the ore was long an extremely difficult process, and greatly retarded its application in the useful arts. A method was discovered by Dr. Wollaston, who established a manufacture of it, and which is understood to have yielded him a very large sum of money, for the platina used in the arts in England was, for several years, obtained almost, if not altogether, exclusively from him. He kept the process a secret until within a very short time of his death, when a full account of it was laid before the Royal Society in November 1828, and published in the 'Philosophical Transactions' shortly afterwards.

Uses of Platina.—The resistance which this metal offers to the action of air and moisture as well as to a large proportion of chemical agents, together with its power of sustaining the most intense heat without melting, renders it a most valuable substance for crucibles and other vessels used in chemical processes. In the manufacture of oil of vitriol, or sulphuric acid, on the large scale, it was usual to employ glass retorts for the purification and concentration of the acid; but these being liable to break from various causes, great loss was often sustained, and the workmen were exposed to serious injury from the destructive effects of the acid when such accidents occurred. Mr. Tennant, of Glasgow, conceived the idea of substituting retorts of platina for those of glass, by which means not only the accidents from breakage would be avoided, but a

* 'Philosophical Transactions,' 1822.

much stronger heat could be employed in the process of distillation than could be ventured upon with the glass. The extent of loss in using the glass vessels may be conceived, when it was found economical to substitute for them so costly a material. The works of this ingenious and enterprising chemist were originally established for the manufacture of a substance used in bleaching—a combination of chlorine, or oxy-muriatic acid gas, with lime; they have now been increased by the addition of manufactures of sulphuric acid, soda, and soap, processes all connected together; and his establishment is probably the most extensive of the kind in any part of the world, there being no less than eleven acres *under roof*. The magnitude of his platina vessels is quite in keeping with that of the rest of his works, for he has two retorts of that metal for distilling sulphuric acid, the one of which cost 1600*l*., and the other 1680*l*. One of them weighs 1445 ounces, and has a capacity of 79 wine gallons, the other weighs 1370 ounces, and has a capacity of 90 gallons. Pieces of money have been struck in this metal in Russia, but the circulation is not as yet extensive, nor has it been applied for that purpose in any other country that we are aware of. Platina has been employed by Mr. Daniel in the construction of his ingenious pyrometer, or instrument for measuring high temperatures, founded on its properties of expansion and infusibility. By this new instrument many corrections have been made of the very erroneous estimates of the melting points of various substances as determined by the pyrometer of Wedgwood. Thus iron was said to melt at 158 degrees of Wedgwood, and as every degree of that scale is equal to 130 degrees of the thermometric scale of Fahrenheit, and as Wedgwood's scale commences at a point corresponding to a heat of 1077 degrees of Fahrenheit, the melting point of iron was supposed to be equal to the enormous heat of 21617 degrees. Mr. Daniel has reduced it by his more accurate instrument to 2786. The maximum of expansion of platina, and therefore the greatest heat it is capable of measuring is equivalent to 3280 degrees of Fahrenheit.

CHINA.—No. III.

The Great Wall of China.

The great wall of China, built to defend the empire from the incursions of the Tartars, has been familiar to us all from our childhood, as one of the wonders of the world. A sober examination, though it will somewhat lessen its magnitude and marvellousness, will still present us with an astonishing work, and impress us with a high notion of the industry and perseverance of the Chinese.

Father Gerbillon, one of the missionaries, who travelled along the chief part of it, passed through most of its principal gates, and indeed saw more of it than any other European, says, "it is indeed one of the most surprising and extraordinary works in the world; yet it cannot be denied that those travellers who have mentioned it have over magnified it, imagining, no doubt, that it was in its whole extent the same as they saw in the parts nearest Pekin, or at certain of the most important passes, where it is indeed very strong and well built, as also very high and thick." According to this valuable authority, from the Eastern Ocean to the frontiers of the province of Chan-si, or for the distance of 200 leagues, it is generally built of stone and brick, with strong square towers sufficiently near for mutual defence, and having besides at every important pass a formidable and well-built fortress. In many places in this line and extent the wall is double and even triple. But from the entrance of the province of Chan-si to its western extremity, the wall is nothing but a terrace of earth, in many places so much obliterated that the missionary could cross and recross it on horseback. There are numerous towers on this part of the wall, but they too are chiefly built of earth.

The wall is in many places carried over the tops of the highest and most rugged rocks. The missionary, P. Gerbillon, expresses his inability to comprehend how stones and bricks could be carried to such places, or how the Chinese could construct vast forts on spots where the boldest European architects would not attempt to raise the least building. The great wall which has now, even in its best part, numerous breaches, is made of two walls of brick and masonry, not above a foot and a half each in thickness, and generally many feet apart; the interval between them is filled up with earth, making the whole appear like solid masonry and brickwork: for six or seven feet from the ground these encasing walls are built of large square stones; the rest is of brick. The mortar used is of excellent quality. The wall itself averages about twenty feet in height, but the towers which are distributed along it are seldom less than forty feet high. At their base these towers are about fifteen feet square, but they gradually diminish as they ascend. Both walls and towers have battlements. There are stairs of brick and stone, as well as inclined planes, to ascend to the platform on the top of the wall, along which six horsemen may ride abreast. It must, however, be understood that this description applies only to the very best part of it.

Near every one of the gates in the wall that the missionary passed through he found a town or large village. Near one of the principal gates which opens on the road towards India, is situated Siningfu, a city of prodigious extent and population which was several times visited by the missionaries. The Jesuit fathers, Albert Dorville and Gruberus, stayed here thirty days, and had ample opportunity of examining the great wall in this part of the country. They described it as being so broad at the top, "that six horsemen placed abreast might run a race along it, without inconvenience to one another; and hence," they continue, "the esplanade on the top of the wall is much frequented by the citizens of Siningfu, both for the enjoyment of the air, which blows most wholesomely and pleasantly from the adjacent deserts, and for the performance of sundry games and exercises for the easing and recreating of the mind; for the walls are of that height that they readily invite the inhabitants unto them by the prospect they afford, and which is on every side most clear and open, and withal exceeding pleasant; and the stairs that give ascent unto the walls are broad and convenient*." They give the length of a journey which may be performed along the top of the wall, as occupying eighteen days, starting from the gate by Siningfu, and stopping by the gate at the city of Sucien, which opens upon the desert, and state that many travellers, from motives of mere curiosity, having obtained the permission of the Governor of Siningfu, and furnished themselves with provisions to that effect, have performed this mural journey. The contrast between the country within the wall and the wilds without, is described as being in certain points most striking: looking down from the battlements and towers which frequently fringed the loftiest rocks, these travellers could see on one side a cultivated expanse covered with numberless inhabitants, and on the other all the wildness of the desert, that seemed never to have been trod by human footsteps, but abounded with all sorts of wild beasts. The view of the wall itself must be equally imposing, as it traverses one vast plain after another, and strides over lofty mountains—its numerous towers here entire and there falling to ruins, the sides

* Ogilby's 'China,' vol. i.

of the walls here free and open, there overgrown with creeping plants, and garlanded with hardy trees that shoot from their interstices or that spring from their base; the whole, to appearance, stretching out as if it were to girdle the globe, or as if it had no end. An antiquity of 2000 years must add to the vastness and solemnity of the impression.

Mr. Barrow makes some curious calculations, which assist the conception of the magnitude of this wonderful wall. According to him, the materials of all the dwelling-houses in England and Scotland, supposing them to amount to 1,800,000 (Mr. Barrow wrote this thirty years ago), and to average on the whole 2000 cubic feet of masonry or brick-work, are barely equivalent to the bulk or solid materials of the great wall of China. Nor are the projecting massy towers of stone and brick included in this calculation. These alone are calculated to contain as much masonry and brick-work as London. The mass of matter is more than sufficient to surround the globe, on two of its great circles, with two walls, each six feet high and two thick! But in this calculation the earthy part in the middle of the wall is included.

It has been remarked as a singular omission that Marco Polo makes no mention of the wall of China, through which, it seems, he should have passed, and which must have left a deep impression on a mind so fond of the marvellous as his was. There is, however, a probability that he wandered through the wilds, passing through Corea, beyond the walls, to the eastern sea, where he might have embarked or found his way into China without seeing the walls.

In its good part, or from the eastern sea to the province of Chan-si (*i.e.*, for 200 leagues), there seems to be only two gaps or interruptions in this wonderful wall, and they are where an inaccessible mountain and broad rivers supply its deficiency. The avenues or passages through the wall to and from the desert are contrived arch-wise, like bridges, or are through walls under ground. The sally-ports for the troops, whence they could issue forth or retire as assault or invasion required, are very numerous. Purchas says, in his 'Pilgrims,' "When any enemy appeareth, they kindle fires upon the towers, to give the people warning to come to their places where they are appointed upon the wall." He adds in another place a curious fact, if it be one, that the walls and towers were garrisoned by condemned Chinese prisoners and foreign mercenaries. If they were, we need no longer be surprised that they hardly ever offered a serious resistance to foreign invasion. "This work," says the missionary Kircher, "is so wondrous strong, that it is for the greatest part of admiration to this day; for through the many vicissitudes of the empire, changes of dynasties, batteries and assaults, not only of the enemy, but of violent tempests, deluges of rain, shaking winds and wearing weather, yet it discovers no signs of demolishment, nor is it cracked or crazed with age, but appears almost as in its first strength, greatness, and beauty; and well it may be, for whose solidity whole mountains, by ripping up their rocky bowels for stones, were levelled, and vast deserts, buried with deep and swallowing sand, were swept clean to the firm ground."

The rapidity with which this work was completed is as astonishing as the wall itself. The whole is said to have been done, in five years, by many millions of labourers, the emperor impressing three men out of every ten throughout his dominions for its execution. It was finished 205 years before the birth of Christ.

The omission of Marco Polo has been turned by some writers into a proof of his not having visited the countries he describes, and by others, who would rather admit that traveller's authenticity than the antiquity of the wall, into a proof that the astonishing structure could not have existed at the period when the Venetian traveller wrote. The supposition of Marco Polo's having entered China by a route to the south of the wall, as we have stated, saves at once the consistency of the traveller and the antiquity of the work: than the latter few things can be better authenticated.

"The period of its completion is an historical fact as authentic as any of those which the annals of ancient kingdoms have transmitted to posterity. From that period (about three centuries before the Christian era) the transactions of the Chinese Empire have been regularly, and without any chasm, recorded, both in official documents and by private cotemporary writers. Nowhere had history become so much an object of public attention, and nowhere more the occupation of learned individuals*."

But, it has been again objected, Marco Polo did not merely arrive once in China and depart by the same route; for "he resided many years in the country, was actively employed in the service of the Chinese Emperor, who sent him occasionally upon foreign missions; and, in the performance of his ordinary duties, must have been incessantly passing and repassing between the capital, where was his master's winter residence, and the summer palaces, by the gates or fortified passes through which the great roads lead to Northern Tartary, where the character of the great national rampart well deserves the epithet of stupendous. In this quarter it is that the omission is a subject of surprise, and not in that where he, together with his father and uncle, may be presumed to have entered the Chinese territory†." In these routes we cannot account for his silence by the wall's being, as it is described by Du Halde, in the western part, "merely made of earth; low, narrow, sometimes buried in the sand." But still he might have passed the wall without being informed of its wonderful extent, or in what it differed from the other fortified posts, towers, or castles which he so frequently notices;—he might have seen it stretching far across a plain without conceiving its marvellousness, which consisted not in a section of it at any particular part, but in it so extending for hundreds of miles; and there are well-grounded reasons for believing that the Chinese themselves would tell him nothing about its extent, and in no way direct his attention to it. Sir George Staunton informs us, indeed, "that the Chinese, with whom curiosity vanishes with the novelty of the object, look now upon the great wall with perfect indifference."

Lord Macartney and his embassy seem to have been allowed to approach it and pass through it without any remarks being made to them by any of their very numerous Chinese escort; but being previously well informed of its situation, and how wonderful a work it was, these gentlemen stole away and examined it. Without the previous information they were in possession of, they certainly would have set down nothing more in their journals than, that at such a point they had passed a wall, &c., and have no more described the great wall than did Marco Polo, who, it may be assumed, had never heard of it. Lord Macartney expressly says, it was not without management that he and his suite contrived to examine the wall at their leisure, and that some of his conductors appeared rather uneasy at the length of their stay upon it. They were astonished at their curiosity, and almost began to suspect the Englishmen, as his Lordship believed, of dangerous designs. Thus the well-known and ridiculous jealousies of the Chinese might well be supposed to prevent them giving information to those they saw curious about the matter, whilst their general indifference, as already mentioned, would equally lead to silence, and prevent them from raising an interest

* Sir George Staunton's 'Embassy,' vol. ii.

† Mr. Marsden's 'Translation of Marco Polo,' book i., chap. xlix, note 446.

which did not pre-exist. Of the Chinese with his Lordship, Van-ta-gin, and Chou-ta-gin, two grandees of the court, though they had passed the wall twenty times before, had only visited it once, and some of the other attending Mandarines had never visited it at all. And though Lord Macartney gives a good description, and some amusing speculations of his own, he does not appear to have obtained from his Chinese fellow-travellers a single point of information concerning the Great Wall.

We learn, moreover, from the learned notes which Mr. Marsden has appended to his valuable translation of 'Marco Polo's Travels' the remarkable circumstance, "that in the Persian account of the journey performed by the ambassadors sent by Shah Rokh, in 1420, to the emperor of China, and which in many respects is circumstantial, no notice whatever is taken of the wall; although in their progress from Kan-cheu to the Kara-muran or Yellow-river, they must have coasted or traversed the line of its direction. And again, from the same authority, we learn that, "even by the geographers of Persia and Arabia, who were laborious in collecting information of that kind, and had the means of obtaining it from the Mohammedans who traded between Bokhara, Kashgar, and China, no mention is made of any extensive rampart, either of masonry or earth, constructed for defending the borders of Khatai."

In case what we have stated under the head of this curious discussion should not carry conviction to the sceptical, we will end by a supposition which Mr. Marsden has referred to; and it does not appear to us, who have some acquaintance with the manner in which the copies of works were multiplied in Italy some centuries ago, a gratuitous or an unreasonable supposition, that the portion of Marco Polo's MS. that described the great wall has been lost by accident, or omitted by design, as too improbable. And Mr. Marsden supports this conjecture by the fact that, in Ramusio's printed version of Marco Polo, a whole chapter (xxxviii.) has been omitted without notice, though it existed in the earlier Latin editions, was necessary for the connexion of the subject, and is indirectly referred to in a subsequent chapter of the same book.

Note.—To preclude misapprehension, it is proper to state, that where the article on 'Pekin,' in a previous Number, (No. 216,) assigns nine gates to the city, the Tartarian city is particularly intended. The Chinese town, which joins it on the south, has five more gates, making fourteen, if we regard the whole as one city.

ANALYSIS OF AN OLD MAGAZINE.

[From a Correspondent.]

I lately picked up at a book-stall the volume of the 'Universal Magazine' for 1775,—just sixty years ago; and when I came to examine it, there seemed to me so many obvious points of difference between this old magazine and the periodical publication of our own day, and that it contained so many indications of differences of tastes and habits between our grandfathers and ourselves, that an account of the contents of one of the numbers would form a very suitable article for the 'Penny Magazine.' I take the first number of the volume. The number was sold at 6*d*., and contained fifty-six pages.

The first object of attention is the allegorical frontispiece,—not a badly-executed copper-plate engraving, but the meaning of which seems perfectly inscrutable, except that it must refer in some way to literature. A lady, without any clothes, stands with a pen in her hand, and before her a great book which rests on the back, and between the wings, of a stout old man, who, by his scythe and hour-glass, seems to be Time, and who, with great good nature, has placed himself on the ground in a very inconvenient posture, in order to form with his back a suitable writing-desk for the lady. The fair scribe herself is looking up to a hovering figure, who seems addressing her, and at the same time lets a string of flowers fall around her person. It is odd that the figure in the air is the only one in the picture unfurnished with wings. Referring to the very necessary explanation which is given in the text of the work, I find that all this represents Apollo dictating to Clio, the historic muse, "who, by her art, is supposed to prevent the ravages of Time from destroying the memory of wise and virtuous actions." What a dunce was I not to discover this! However, the Apollo being a full-robed figure of a feminine appearance is as little as possible like the common representations of him. Yet we are told that "this beautiful allusion is taken from a drawing by the celebrated Eisen, who is confessedly unrivalled in a species of painting *which is now in the highest reputation;* we mean, the allegorical kind." The loss of reputation which allegorical painting has since undergone, is a circumstance which I certainly see no occasion to lament.

The copious title-page is a perfect advertisement, and affords a striking contrast to the brief and undescriptive titles of modern magazines. Here it is:—

"The Universal Magazine of Knowledge and Pleasure; containing—

News,	Geography,	Gardening,
Letters,	Voyages,	Cookery,
Debates,	Criticism,	Chemistry,
Poetry,	Translations,	Mechanicks,
Music,	Philosophy,	Trade,
Biography,	Mathematics,	Navigation,
History,	Husbandry,	Architecture,

and other Arts and Sciences, which may render it Instructive and Entertaining to Gentry, Merchants, Farmers, and Tradesmen; to which occasionally will be added an impartial account of Books in several Languages, and of the State of Learning in Europe: also of the Stage, new Operas, Plays, and Oratorios."

It ought to be remarked that this magazine was one of the earliest and most permanently successful rivals of the 'Gentleman's Magazine.' It commenced in 1747, and, after extending to 112 volumes, it would seem to have been discontinued in 1803, as I have not been able to find a volume of later date. As its title denotes, it aimed at a more general and popular character than the venerable publication which preceded and survived it; and although, from the lighter tone of its contents, and the absence of minute researches and local illustrations, it never approached the 'Gentleman's Magazine' in literary rank, and is never, like that, quoted as an authority, still the work was judiciously planned and respectably executed, and deserved the success which it obtained. To us, I dare say, it is also recommended by the fact, that it was one of the earliest periodicals not exclusively addressed to "the gentry," and condescended to number "farmers and tradesmen" among those to whom it looked for support. The 'Universal Magazine' was thus a diffusionist in its day, although that day did not allow it to consider the operative classes as embraced within the "universal" scope of its objects.

The first article in the number, which is suggested by the frontispiece, is entitled, 'A Critical Inquiry into the defects of modern artists in Painting and Poetry, with regard to Allegorical subjects.' The object of the paper is to show that the moderns have grievously departed from the simplicity of ancient allegorical representations. Their own frontispiece evinces this so satisfactorily, that the essay on the subject might well be dispensed with. The next article is a 'Life of William Penn,' the introduction of which was considered very appropriate at a time when the disputes with the American colonies engrossed so much of the public attention. Then follows a sort of treatise 'on Marriage, in an epistle from a Father to his Daughter.' Next comes a sketch of the plot of the still well-known comedy of 'The Rivals,' which had then just been brought out at Covent Garden Theatre. This is fol-

lowed by a string of 'New Maxims, Observations, Thoughts, Sayings, &c., on various subjects.'

The next article is Burke's characters of George Grenville and Lord Chatham, as given in his celebrated speech on American taxation. I need not praise this; and I cannot praise the article which follows, entitled 'Winter; a Dialogue between Cleon and Lycidas, illustrated with a beautiful allegorical representation of that season of the year.' More allegory!—but my copy has lost this "beautiful engraving." After this comes 'The History of England,' being a continuation of a well-digested abstract which runs through several of the volumes of the magazine. Then there is an interesting paper, from the 'Philosophical Transactions,' on the stilling of waves by means of oil; several remarkable instances of which are quoted from Dr. Franklin and others. This is followed by one of 'Lord Chesterfield's Letters to his Son;' and then comes a letter from a correspondent, who very much doubts the statement of a former correspondent that Milton was probably indebted for the first idea of 'Paradise Lost' to a work published in 1661 by a disciple of Behmen. The idea of the poem was certainly conceived long before 1661, though the poem was not published till 1665; and the writer avers that there is no trace of Behmen's philosophy throughout the 'Paradise Lost,' or any evidence that Milton was at all acquainted with the works of that visionary.

The next paper consists of Mrs. Griffith's remarks on the tragedy of 'King Lear,' being one of a series of papers under the title of 'The Morality of Shakspeare's Drama.' Then come three 'Remarkable Anecdotes.' These are succeeded by a copy of the famous petition of the American Congress to the King. This is followed by a "true story" on filial affection. Then comes an account of the new tragedy of 'Matilda.' This is followed by the 'Natural History of the Turkey Cock, with an accurate engraving of that beautiful bird.'

We at length come to the poetry, a great department in old periodical works. Of this the less that is said the better for the reputation of our "universal" friend. Some extracts, from Dr. Johnson's recently-published 'Journey to the Western Isles,' conclude the literary portion of the number.

The rest of the magazine is devoted to news. This, to us, forms the most interesting portion of the whole. First, there are 'Foreign Advices,' which happen to contain little of interest this month. Then comes a brief abstract of the proceedings in Parliament. The names of the speakers are given at length, and without any attempt at disguise. This had now been the practice of the 'Universal Magazine' for some years; but was not adopted by the 'Gentleman's Magazine' until 1782. In the present instance, the names of Lord North, Burke, and Fox occur among the speakers who chiefly discussed the affairs of America. It seems that at this time eleven o'clock was considered a late hour for the rising of the House of Commons. When the debates were first published, the initial and final letters of the speakers' names only were given: the absent letters being supplied either by an equivalent number of asterisks, or by a dash proportioned to the length of the name. When, however, the name was such that this method rendered it too liable to be confounded with some other, the two final letters were given, and sometimes the middle letter. The 'Gentleman's Magazine' at one time tried a curious plan of managing this business. The accounts were given as of proceedings in the "Senate of Lilliput;" the Dukes were "Nardacs;" Lords "Hurgoes;" Commons "Clinabs;" and the names were either slightly anagrammatised, or so spelt with letters conveying a similar sound with the real ones, that they were just as intelligible as if spelt correctly. The key to the names was given at the end of the year in the form of an advertisement of a work to be published in fifty volumes, a specimen of which, so far as related to the "Senate of Lilliput," was then given. This specimen contained the key. The debates then read thus:—"The Nardac Befdort [Bedford] spoke in substance as follows:"—"The Hurgo Toblat [Talbot] spoke next, and among other things said,"—"Sir Rub. Walelup [Walpole] rose again and spoke to this effect." In the same way Lyttleton was "Lettyltno;" Bathurst "Brustath;" Fox "Feauks;" Wynn "Ooyn," &c.

The 'Historical Chronicle,' which comes next, concludes the number.

A few brief extracts from this portion will be amusing:—

"January 6.—On Wednesday Mr. Brower, print-cutter, near Aldersgate Street, was attacked on the road to Enfield by a single highwayman, whom he recollected to be a tradesman in the city. He accordingly called him by his name, when the robber shot himself through the head."

It appears from the news, the tales, and the plays of the period, that it was not then at all uncommon to find persons apparently occupying a respectable place in society acting as highwaymen. This is a thing never heard of now; indeed the race of highwaymen has become nearly extinct altogether; and this is one of the thousand facts which speak well for the present state of society, notwithstanding all that my good old grandmother used to say about the blessedness of the times which we have now under consideration.

"January 10.—Saturday evening, a woman applied to a resolver of lawful questions in a court in Fleet Street, to be satisfied in relation to some future events: but while poor Albumazer was consulting the stars in his chamber in order to resolve her doubts, he seems to have been utterly ignorant of his own present fortune; for some thieves (supposed to be the inquirer's confederates) stripped his other apartment of everything that was conveniently portable."

I wish I could feel that these "Albumazers"—these nurses of folly and superstition,—were also an extinct race. They are certainly less numerous and less obtrusive than formerly; but they still exist every where, and will still continue to exist while any dupes are to be found. I have myself known persons go upwards of forty miles to consult a worthy of this profession, whose willing victims enabled him to live upon the fat of the land.

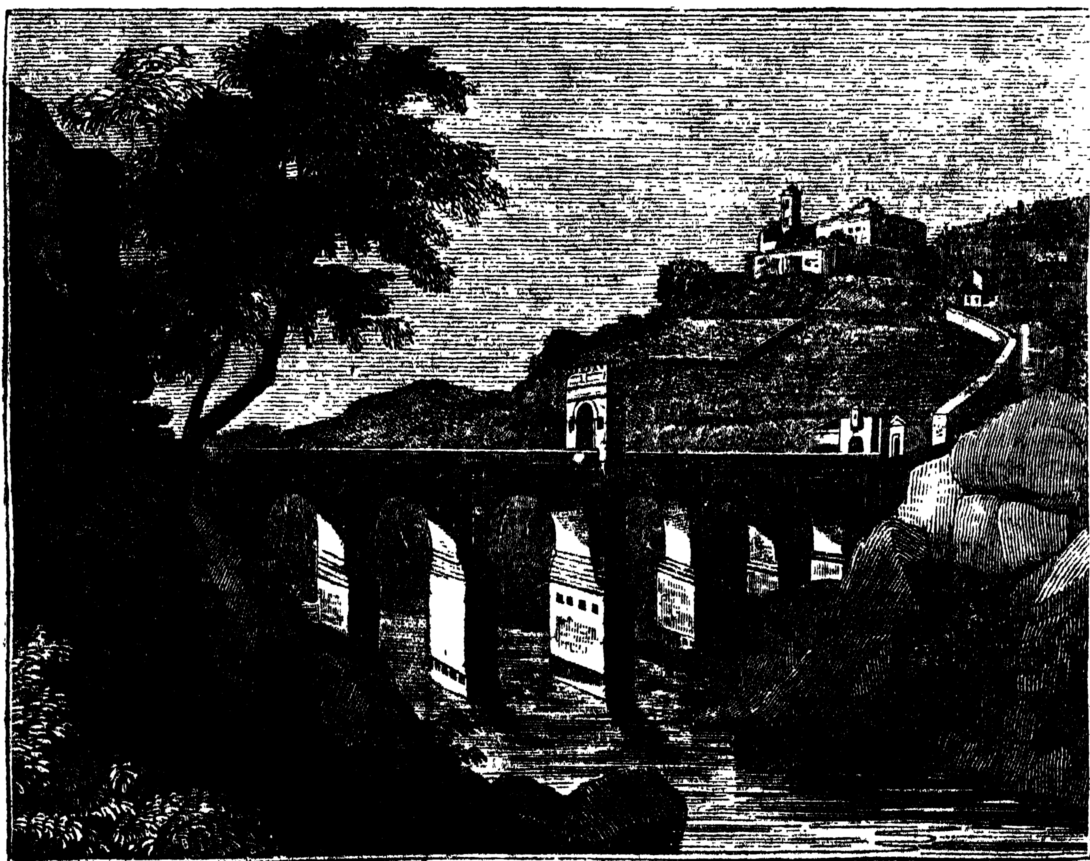
"January 18.—This day there was a numerous and splendid court at St. James's, on account of its being appointed for keeping her Majesty's birth-day. Their Royal Highnesses the Prince of Wales [the late George IV.], the Bishop of Osnaburg [late Duke of York], Prince William Henry [the present King], Prince Edward [late Duke of Kent], a great number of nobility, and all the foreign ministers were present. The court did not break up till past five o'clock. At night there was a ball. His Majesty sat to receive the compliments of the nobility and gentry in a suit of light blue velvet and silver, with spangles; and the Queen was dressed in an elegant brocaded full suit of clothes, and a new elegant diamond stomacher, with necklace and ear-rings."

Hurry.—The Americans are in too great a hurry to plant hedges: they have abundance of native material; but a wooden fence is put up in a few weeks,—a hedge takes as many years to grow; and, as I said before, an American has not time to be a year about anything. When first the country was settled, the wood was an encumbrance, and it was cut down accordingly; that is by no means the case now; and the only recommendation of these fences is, therefore, the comparative rapidity with which they can be constructed. One of the most amiable and distinguished men of this country once remarked to me, that the Americans were in too great a hurry about everything they undertook to bring anything to perfection. And certainly, as far as my observation goes, I should *calculate* that an American is born, lives, and dies twice as fast as any other human creature. I believe one of the great inducements to this national hurry is, that "time is money," which is true; but it is also true, sometimes, that "most haste makes worst speed."—*Mrs. Butler's Journal.*

ALCANTARA

Alcantara is a small frontier city of great strength in Spanish Estremadura, upon the banks of the Tagus. "The town was originally built by the Moors, on account of the convenience of a fine stone bridge which, as recorded in an inscription over one of the arches, was built in the reign of the emperor Trajan by the people of Lusitania, who were assessed to pay the expenses. It was thus that the Moors gave to the town the name of Al-Cantara, which in their language signifies *the bridge*. This bridge is thrown across the river at a place where it flows in a deep channel between two high and steep rocks. It is elevated 211 feet 10 inches above the level of the water; although it consists but of 6 arches, is 568 feet in length and 27 feet 6 inches in breadth. Of the six arches the two in the centre are 94 feet wide. A triumphal arch in honour of Trajan rises in the centre, and a mausoleum constructed by the Roman architect (Lacer) stands at the extremity towards the town. This mausoleum, which owes its preservation to the enormous stones with which it is constructed, has been changed into a chapel dedicated to St. Julian, and is now an object of veneration both to the townspeople and peasantry. There is nothing else remarkable about the town, except the strong walls, bastions, and other works, with which its situation on the borders of Portugal has caused it to be fortified. There are about 3000 inhabitants, who carry on some trade in wool and cloth.

When the town was taken from the Moors by Alphonso IX., king of Castille, in the year 1212, it was in the first instance committed to the charge of the knights of Calatrava; but, two years after, it was transferred to the knights of St. Julian del Parero, or St. Julian of the Pear-tree, an order instituted in 1170, and which soon relinquished this odd denomination for that of Alcantara, at the same time assuming a green colour for the cross *fleur-de-lys* which they bore over their large white cloaks. This was apparently intended for the purpose of a distinction between their order and that of Calatrava. When the town of Alcantara was surrendered to the knights of the Pear-tree, it was stipulated that there should be a confraternity between the two orders, with the same practices and observances in both, and that the Alcantara order should be subject to be visited by the grand-master of Calatrava. The Alcantara knights soon, however, became dissatisfied with this engagement, and released themselves from it, on the pretence that their grand-master had not been called, according to one of the stipulations, to the election of the grand-master of the Calatrava order. The knights make a considerable figure in the history of the expedition against the Moors,—war against them being one of the grounds on which the order was instituted. They were, in fact, military monks, under the same vows as the Benedictines. After the expulsion of the Moors and the taking of Granada, the sovereignty of both the orders of Alcantara and Calatrava was settled upon the crown of Castille, in the reign of Ferdinand and Isabella, when the order transferred the town to the general government. The order of Alcantara was very wealthy. After it had become comparatively poor, it still possessed 33 commanderies, four alcaydies, and four priories, producing an annual revenue of 80,000 ducats. It has probably since undergone further diminution, but to what extent we are not informed.



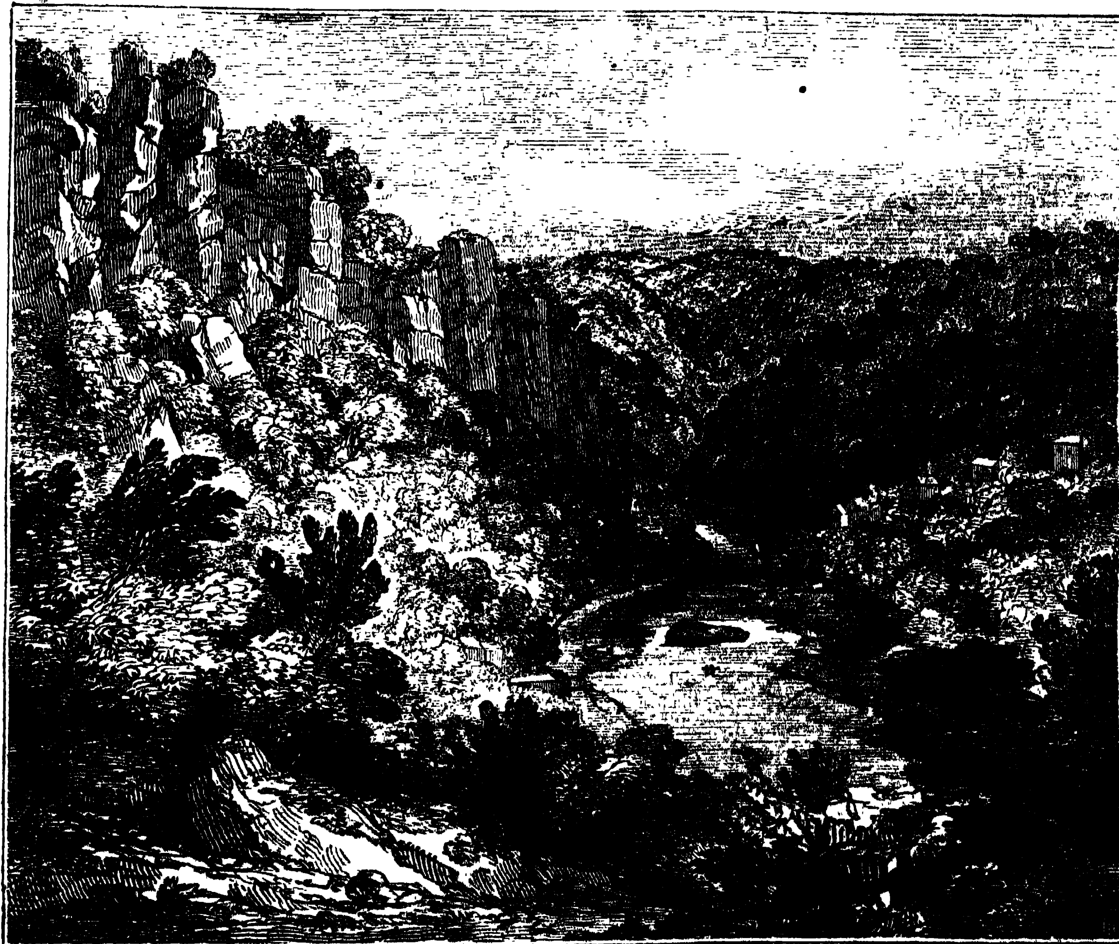
[Bridge and Town of Alcantara, Spain.]

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THE WYE.



[Coldwell Rocks.]

PLYNLIMMON, a mountain of South Wales, which is about 2462 feet above the level of the sea, and situated on the verge of Cardiganshire and Montgomeryshire, gives birth to five rivers, the most important of which is the Severn, and the most beautiful the Wye. The other three, that never become much more than mountain-torrents, are the Rhydol, which joins the Mynach at the Devil's Bridge, the Lyffnant, and the Dulas. The sources of the Severn and Wye (like the fountain-heads of those grander streams, the Danube and the Rhine) are close to each other, and, after pursuing opposite courses, their waters meet, and roll into the ocean together.

For the beauty and variety of the scenery on its banks, there is no river in England at all comparable with the Wye, nor do we believe, notwithstanding the superiority of some of them in point of size, that there is a single river on the continent of Europe that can boast such scenes of alternate grandeur, gracefulness, and pastoral beauty,—such an uninterrupted succession of exquisite landscapes as occurs on the Wye all the way from Goodrich Castle to Chepstow Castle. For ourselves, we never saw such a continuity of beauty, and the author of the book that goes under the title of the 'Tour of a German Prince' seems to be pretty much of our opinion. "Never," he says, "was I more convinced than here, that a prophet has no honour in his own country. How else would so many Englishmen travel thousands of miles to fall into ecstacies at beauties of a very inferior order to these!"

It is only at a comparatively recent date that the Wye has become at all frequented on account of its scenery. About the middle of last century, Dr. John Egerton, who was afterwards Bishop of Durham, was collated by his father to the rectory of Ross, in which pleasant town, situated on the bank of the river, and just at the point where the beautiful scenery begins, the doctor resided for nearly thirty years. He was a man of taste, and had a lively enjoyment of the pleasures of society amidst the beautiful scenery of his neighbourhood. His chief delight was to invite his friends and connexions, who were persons of high rank, to pay him summer visits at Ross, and then to take them down the Wye, which river, the "Pleased Vâga echoing

through its winding bounds," of the poet, as well as the town of Ross, had derived an interest from the verses of Pope. To this end Dr. Egerton built a pleasure-boat; and year after year excursions were made, until it became fashionable in a certain high class of society to visit the Wye; but when the doctor was removed to the see of Durham, his boat was left to rot on the banks, the voyage becoming less and less frequent. Mr. Whately, a writer on landscape gardening, and an exquisite critic, directed attention to the New Weir, Tintern Abbey, and one or two other scenes on its banks; and in 1770, the Wye was visited by the Rev. William Gilpin, who, though somewhat of a pedant in art, and not over-correct in his descriptions, did good service to taste and the lovers of nature, by publishing the account of his tour. The same year a greater name connected itself with the Wye, for it was visited by the immortal author of the 'Elegy in a Country Churchyard.' "My last summer's tour," says Gray, in one of his admirable letters, "was through Worcestershire, Gloucestershire, Monmouthshire, Herefordshire, and Shropshire, five of the most beautiful counties in the kingdom. The very principal light, and capital feature of my journey was the river Wye, which I descended in a boat for near forty miles, from Ross to Chepstow. *Its banks are a succession of nameless beauties.*" It may almost be said that the last happy moments Gray knew in this world were spent upon the Wye; for a few months after we find him a prey to ill health and despondence, complaining of an incurable cough, of the irksomeness of his employment at Cambridge, and of "mechanical low spirits," and he died in the course of the following summer.

The publication of Gray's correspondence probably attracted more tourists than Gilpin's book, and yet, for some years afterwards, a single boat was all that was required to convey the company down the Wye. At present there are several pleasure-boats in pretty constant employment during the fine season, and these are to be hired for private parties. They are safe and commodious, and are rowed by two men. The voyage from Ross to Chepstow generally occupies two days. Single boats are of course expensive, for the river is in parts so rapid that it is a great labour to work a boat up again. Last summer, however, a large vessel, something like a city barge, was started at Ross, and the passage per head to Chepstow is very reasonable. This fact sufficiently indicates that, like all the best and most intellectual of our pleasures and tastes, the love of travelling and fine scenery is finding its way among the great body of the people. We trust we shall render an acceptable service by pointing out and recommending this excursion in preference to many more distant and expensive tours.

Descending from the lofty sides of Plynlimmon, the Wye, at first an insignificant stream, flows on in a southerly direction, traversing the county of Radnor, which it divides from Brecon. For the first ten miles, or as far as Llangerrig, the country has little to recommend it, being naked and dreary, with brown peat-covered hills in the distance; but from Llangerrig to Rhayader (a distance of twelve miles) the scenery is rather romantic, the river being flanked by bold rocks, and running over a declining irregular bed, in a succession of falls, or rapids. It is a favourite resort of anglers, as it abounds in fine trout; but, otherwise, all that part of the Wye above Rhayader is little visited, and may very well be omitted, as far inferior in scenery to most other portions of the river. At Rhayader, which is in itself a curious, romantic specimen of the small towns of Wales, the river commences to be very picturesque, and there is a fine view of it from the bridge at the entrance of the town, where it falls over a ledge of rocks and forms some deep and dark pools, after which it tears its way through white rocks and crags into a somewhat open and spacious bed. Near to this spot the Wye receives two tributary streams,—the Eilon and the Ython,—which materially increase its importance; and the whole of the valley between Rhayader and Bualth, or Builth, a distance of thirteen miles, is singularly romantic. The road (for the traveller must not think of boats as yet) lies, for the most part, close to the bed of the stream, and affords the most favourable views of the lofty banks, the rocky channel, and the winding, devious course of the river. At one point a grand mass, called the Black Mountain, seems to choke up the vale and deny all passage to the Wye, which runs rapidly towards it; but just as the river reaches the foot of the mountain, it turns towards the north, and, after opening an unexpected narrow passage, it expands into a broad picturesque bay, a little above Bualth. From this old town, which is entered by crossing a long and rather rude stone bridge, the views of water, wood, mountains, and plain are fine and extensive. The town itself has an essentially Welsh character; and some of the most interesting events in Welsh history took place in its neighbourhood. It was here, on the left bank of the Wye, that the celebrated hero, Llewellin, was defeated and slain, in 1282, by the army of Edward I. It is supposed that Bualth was known to the Romans under the name of *Bullæum Silurum*, and several sepulchral barrows point to a much more remote time, and to the religion and usages of our Druidical ancestors.

We arrived at Bualth on the evening of the market-day, when the romantic little town and all the roads and bridle-paths near it were unusually animated. Farmers and shepherds were retiring (singing as they went) to their homes among the mountains; and the pretty laughing Welsh girls, in their neat blue dresses and men's hats, and mounted on rough-coated long-tailed ponies, were trotting and cantering home in all directions. The scene was the more pleasing from the testimony it afforded, that even among these rocks, moors, and mountains men could obtain a comfortable subsistence. There was a very general appearance of comfort and prosperity, and scarcely a sign of squalid poverty. Plenty of people had come to the fair from Hay, and other parts of the Herefordshire border, and all was harmony and good will where, if Englishmen and Welsh had met a few centuries before, there would have been nothing but strife and a cutting of one another's throats.

The road from Bualth to Hay affords some fine prospects of the Wye, though it does not always lie near to the bed of that river. On approaching Hay the scenery loses much of its picturesque wildness,—mountains and rocks begin to disappear, neat villas and country-houses occur frequently, and the whole country assumes an English air. The town of the Hay, or, as it is commonly called, the Welsh Hay, is pleasantly situated, and is in part very picturesque. There is a tower with the gateway of an old castle finely covered with ivy, and, in the rear of the church, there are some slight vestiges of fortifications which are supposed to be Roman. A little below the Hay the Wye bends to the east, and enters the beautiful plains of Herefordshire with a slow and majestic pace. Having travelled sixty miles from its source in Plynlimmon and received numerous tributary streams, it has here the appearance of an important river; but the bed is broad and shallow, and no kind of vessel is seen upon it before reaching the city of Hereford. About two miles below the Hay, and close on the banks of the Wye, stands an old castle, partly surrounded by woods. This was the birth-place of the fair Rosamond of whom our old chroniclers and poets made so much

and of whose real history we know so very little. The antique building is called Clifford Castle, and forms a good feature in a very pleasing landscape. The whole valley of the Wye, from the Hay to Hereford, is highly cultivated and pretty, but devoid of grandeur.

In the ancient city of Hereford, which has a singular air of tranquillity and of the olden times throughout, the tourist may spend a delightful hour or two in examining the fine Gothic cathedral. There are some pleasant promenades in the outskirts of the town, particularly one on a quay immediately above the Wye, which is here a quiet, stately river, as unlike as possible to the brawling mountain-torrent which it is above Rhayader, or the foaming, impetuous stream it is above Bualth. We saw a considerable number of barges and other craft moored at Hereford, where we were told that some of these vessels, drawing very little water, could, at certain seasons, go twenty-five miles higher up, or nearly to the Hay. At other times, however, when the river is low, they have some difficulty even in getting as far as Hereford. Most of the coal and wood consumed in that city and its neighbourhood are brought up in barges from Bristol, Chepstow, and the Forest of Dean, after a swell of the river; and the inhabitants occasionally export, by the same conveyance, their excellent Herefordshire cider and other articles. These voyagers, however, are liable to frequent interruptions, and, at times, to long detentions. From its numerous shoals and deficiency of water, the Wye, in its present natural state, can scarcely be considered a commercial highway above Monmouth. About six miles below Hereford it receives the river Lug, and, near the confluence of the two streams, there is a curious elevation called Marclay Hill, which seems to have been thrust up by some convulsion of the earth like the Monte Nuovo in Italy, that suddenly rose out of and almost entirely filled up the Lucrine Lake. According to Camden, for three days together did Marclay Hill "shove its prodigious body forward with a horrible roaring noise, and, overturning everything in its way, raised itself, to the great astonishment of all beholders, to a higher place." In volcanic countries such phenomena are not rare, and sometimes, instead of protrusions and ascents, there are descents, which are equally curious. In the province of Apulia, in the kingdom of Naples, there is a hill that slid down into the plain, carrying with it, without much damage, a small town that stood on its summit. Even the church-tower, the highest building in the place, was not overturned by this locomotion.

Although the road only now and then affords a glimpse of the Wye, all the country (which Gilpin calls *tame*) between Hereford and Ross is varied by swelling hills, hop-grounds, orchards, and woods, and is lovely in the extreme. It may not always be fit for a picture, and Gilpin only looked at nature with reference to the painter's canvass, but it is undoubtedly a most delightful part of this fair island.

On entering the small quiet town of Ross, which is beautifully situated on an eminence close to the left bank of the Wye, everything reminds one of honest John Kyrle, whom Pope has immortalized, and the eye is attracted to the church and the "heaven-directed spire," to the trees he planted, to the causeway he laid down, and to the rest of his useful and honourable labours. Indeed, spending a day at this pleasant town is like spending a day with the "Man of Ross" himself, for we are reminded of him whichever way we turn, and the inhabitants have most religiously cherished his memory, and all the little circumstances and anecdotes relating to him. Near to the decent, quiet inn where we stayed, there stands the house he built himself and inhabited; and in the club-room of another little inn in the town they preserve the good man's arm-chair. John Kyrle's fame was acquired by the judicious employment of a small fortune in works of public utility, and those works are fairly set down, and without exaggeration, in Pope's well-known and admirable lines, although, as Dr. Johnson observed, it is probable that his "five hundred pounds a-year" did not pay for all those improvements and charities, and that through his example, his known integrity and active benevolence, his wealthier neighbours were in some instances induced to join their purses with his for the public good and the ornament of their town.

In his time the country round Ross, which in the twelfth century was a forest interspersed with marshes, and swarming with wild-boars and wolves, was greatly wanting in trees, and Kyrle directed his energies to the supplying of this deficiency. He planted a vast number of elms in the churchyard and glebe, and in the rear of the church he laid out a beautiful avenue which is called the "Prospect," or "The Man of Ross' Walk." It is on the ridge of a hill, and commands a fine view of the valley, and the river, and the hills beyond. It is said of him in King's 'Anecdotes,' that "he had a singular taste for prospects; and by a vast plantation of elms, which he disposed of in a fine manner, he has made one of the most *entertaining* scenes the county of Hereford affords. * * * Through the midst of the valley below runs the Wye, which seems in no hurry to leave the county; but like a hare that is unwilling to leave her habitation, makes a hundred turns and doubles."

Within the church we were shown the pew where the good man sat for so many years, and which, out of respect to his memory, has never been altered or touched during the several alterations the church has since undergone. Two slight elm-trees grow *inside of the church*, and indeed within the pew, partially curtaining with their foliage the tall arched window that opens upon it. The local legend is, that some years ago a rector impiously cut down some of John Kyrle's dear elms that stood in the churchyard, outside of the window, and opposite the pew, and that thereupon, as if determined to show their affection for their planter, some roots threw out fresh shoots, which, penetrating the church wall, grew up over the very seat he used to occupy. The legend, at all events, is pretty, and there are the trees growing in the church, and their light green leaves gracefully extending over the pew, to answer for its veracity. The people who showed us the interior of the church seemed to regard the trees as miraculous and sacred objects, and they will probably be left to grow unmolested in the aisle, until their size becomes inconvenient and requires trimming.

In Pope's time John Kyrle lay "without a monument, inscription stone," but in 1776 Lady Betty Duplin left a sum of money for the purpose, and his name is now recorded in a *simple* inscription, but in *gold* letters, on a marble tablet, over which is placed that other doubtful adjunct of monumental fame, a tolerably "bad bust." The memory of honest John did not require these things to preserve it, but they will do it no harm, and they proceeded from laudable motives.

In the corner of the churchyard there is a curious old stone cross commemorating the ravages of the plague,—that fearful disorder from which we have been so long exempt.

From the pleasant town of Ross we descended the Wye in one of the small row-boats kept for the purpose. A little below the town, on the right bank of the river, stand the ruins of Wilton Castle, the history or name of whose baronial founders we forget or overlook in our respect for a remarkable man who once held possession of it, and who left it, with the rich estates adjoining, to a public charity of the best kind. This man

was Thomas Guy, the founder of Guy's Hospital in London. The estate of Wilton Castle was left by him to that establishment.

A few yards lower down, the Wye passes under Wilton Bridge, the arches and piers of which are of curious construction, and were first built at the end of the sixteenth century. At the time of our passage, which was early in the month of June, we found such a deficiency of water about two or three miles below the bridge, that even our little boat grounded. So far, and indeed for a mile or two farther, the scenery of the Wye, including the view of Ross, with its steeple, its terraces, and trees, is only pretty and graceful; but, on approaching Goodrich Castle, it becomes bolder and grander. On either side, the banks begin to rise into lofty precipices, or wooded hills, of the noblest forms; and the sudden turns and windings of the stream every minute bring unexpected and startling objects in sight, and give a new aspect and character to the features of the scene already passed. At the very point where a massy ivy-covered ruin and an antique-looking castellated building are most desirable, we find the ruins of Goodrich Castle, and—that admirable imitation of the antique—the mansion of Sir Samuel Meyrick, called Goodrich Court. As we approach this point, which is about four miles below Ross, the river expands, and forms a sort of bay; and on the right bank, on a lofty wooded eminence, which projects as a promontory, stand the ruins and the mansion.

The ascent to the old castle, from the bed of the river, is steep; but the path lies, for the best part, through a pleasant wood, and every resting-place offers a delightful view. The castle itself presents grand and imposing masses of masonry of different periods of architecture. The keep, which is the most ancient part, is in the Saxon style; but there are evident signs of alterations and improvements of a much later age; and, in other parts of the building, which seems to have been successively enlarged, we trace the Tudor style. The history of the place is not well preserved, but there was a castle here (consisting probably of the keep and little else) before the Norman Conquest, and the last additions to it should seem to have been made in the time of Henry VII. During the great civil war, it was the scene of desperate contention. It was occupied in the first instance for the parliament, but was afterwards seized and garrisoned for Charles I. by Sir Richard Lingen. It was retaken by the parliamentarians under Colonel Birch, after some hard fighting, at the beginning of August, 1646, being the last castle in England, with the exception of Pendennis, that held out for the king. During the siege, it suffered considerably from the mortar-pieces, granadoes, and "the great iron culverin" of the assailants, and, in the month of March following, it was ordered by parliament, "that Goodrich Castle should be totally disgarrisoned and slighted" (*i. e.* destroyed). From the immense, and in some parts almost perfect, masses that remain, we may judge that the people employed on this work of destruction were sparing of their labour and gunpowder; and we are happy that it should have been so, as they have left us a fine ruin,—just ruined enough to be picturesque, and sufficiently entire to attract and gratify curiosity in the examination of its arrangement and details. Whether seen from the water below or from the hill-side, being taken in connexion with the river, the woods, and the rocks, it is a beautiful object. From the battlements of one of the towers there is a glorious view.

A romantic winding path leads from the old castle to



[Goodrich Castle.]

Goodrich Court, which building is said to be strictly copied in all its parts from original specimens of the architecture which prevailed from the close of the reign of Edward I. to the commencement of that of Edward III. In the interior, Sir Samuel Meyrick's valuable collection of old armour is arranged in the happiest manner in a spacious hall, and each apartment is furnished and fitted up in the style prevalent at one particular period of our history. The house, which is by far the most perfect thing of its kind in England, is freely shown, upon application to its accomplished owner; and as its style and contents harmonize with the scenery of the Wye, and the old historical associations upon its banks, the tourist will do well to visit it on his way. If he be fond of antiquarian pursuits, Sir Samuel's large and valuable collection of British antiquities, arranged with the most perfect taste and knowledge, will afford him singular pleasure.

On returning to our boat we gently glided down the winding river through scenes of constantly changing and increasing beauty and magnificence. For some time Goodrich Castle remained a prominent feature in the landscape, for the Wye here makes a remarkably bold sweep, going completely round the wooded headland, and returning, as it were, upon the castle in another direction. Another sudden turn brings us full in view of the magnificent forest of Dean, and the romantic spire of Ruer-Dean Church rising among the trees. Here both banks are lofty and steep, and both woody; but the woods on the left bank are intermingled with rocks. Villages in the most beautiful situations, rural churches, and scattered cottages, now begin to peep more frequently from the hills upon the river that reflects and multiplies them. The village of Lidbroke, where coals are occasionally shipped for Ross and Hereford, has an air of business and bustle, but all is again tranquil on reaching Courtfield and Welsh Bicknor Church. According to tradition, our *too* famous king, Henry V., " being when young of a weak and sickly habit," was removed from Monmouth, his birthplace, and nursed at Courtfield under the care of the Countess of Salisbury; and some antiquaries have decided that a monumental effigy still seen in the little church of Welsh Bicknor represents the Countess, who lies buried beneath it. The church and the tomb of the noble and gentle-hearted lady may engage our sympathy, but we care little for the conqueror. We would not associate the memory of that man of blood with the holy tranquillity of spots like these, where the very spirit of peace seems diffused over the woods and waters, and all the beauties of this visible world inspire respect for the lives of those who are sent by a merciful and bounteous God to enjoy them and to love one another.

Two miles below Welsh Bicknor, on the left bank of the Wye, and in Gloucestershire, there is another village, called English Bicknor, and near to that point the sublime rocks of Coldwell present themselves with wonderful effect. There the river forms a beautiful little bay, and passengers can land on some rocks and green sward, and contemplate at their leisure a scene which we have seldom seen surpassed, and which is called by Gilpin " the first grand scene on the Wye." Our wood-cut will give some notion, however imperfect, of this remarkable spot. Continuing the navigation we come to Hunt's Holm Roye, where a picturesque parish church stands on the river's brink. On account of the tortuous course of the river, this place, which is only one mile from Goodrich by land, is rather more than seven by water. The cheerful village of Whitechurch, backed by the bold hills called the Great and Little Doward, is next seen, and passing other spots and objects of beauty too numerous even to name, we next come to Symond's Yat and the New Weir, which is generally called " The Second Grand Scene on the Wye." At Symond's Yat we landed and climbed up a towering rocky promontory of great height, which (while seen from below, it is one of the grandest objects met with) affords the finest of all the views of the mazes of the Wye, and a magnificent landward prospect over the counties of Gloucestershire, Herefordshire, and Monmouthshire. Here the turrets of Goodrich, from which we had been wandering so long, again showed themselves. At our feet, on the shelving banks of the river far below us, were some iron forges and lime-kilns, the ascending smoke of which produced a singular effect, which we might almost call solemn.

Descending from this grand height we came to the New Weir, where the river assumed another character. Hitherto it had moved with a tolerably slow, quiet pace, but here it roared and foamed over a bed of rocks, and became for some hundreds of yards a rapid or a succession of little falls. The scenery, particularly on the left bank, assumes its grandest characters. "These," says the German tourist, " are craggy and weather-beaten walls of sandstone, of gigantic dimension, perpendicular or overhanging, projecting abruptly from amid oaks, and hung with rich festoons of ivy. The rain and storms of ages have beaten and washed them into such fantastic forms, that they appear like some caprice of human art. Castles and towers, amphitheatres and fortifications, battlements and obelisks, mock the wanderer, who fancies himself transported into the ruins of a city of some extinct race. Some of these picturesque masses are at times loosened by the action of the weather, and fall thundering from rock to rock, with a terrific plunge into the river."

When we got again into smooth water (and at that particular point the Wye is deep), we saw, for the first time, some fishermen floating and paddling about in their little coracles. These coracles, or truckles, as they are sometimes called, are evidently a remnant of the primitive inland navigation of the ancient Britons, and are probably the same as the portable boats used by the Scots and Picts in crossing the rivers to invade England. In form they are neither canoe-shaped nor ship-shaped, being, on the contrary, like a somewhat oval tub. They are made of pitched canvass or raw hide, stretched over a few slight ribs of wood, or over a



[Coracle.]

frame of wicker-work, and each of them is only capable of holding one man. The least motion seems to threaten to upset them, and it is very difficult indeed to the inexperienced to get into them and set them afloat at all, as, unless the weight is made to bear exactly on the centre, the coracle rolls over stern uppermost. The men we saw using them appeared, however, to be very much at their ease as they went across or down the stream, working a paddle with one hand and fishing with the other. These boats are so light that, when their day's work is done, the fishermen throw them over their shoulders and carry them home. In case of rain, they can be made very effective as impervious hoods or umbrellas. Gilpin told a story, which has been copied in most of the guide-books, of an adventurous fellow who, for a wager, navigated a coracle out of the Wye, and all down the broad and frequently stormy estuary of the Severn, as far as the isle of Lundy, at the mouth of the Bristol Channel. "When he returned to the New Weir," says the original teller of the story, "report says the account of his expedition was received like a voyage round the world."

During the latter half of the trip from Symond's Yat to Monmouth, rocks and sublimity give place to more gentle declivities, and to mild beauties that partake of the pastoral character. Cattle were sprinkled on green ledges above the river: in some places the meadows shelved down to the brink, allowing the cows to stand and cool themselves in the stream, and flocks of white sheep lent beauty and poetry to the middle distance. The whole valley of the river moreover opened, the hills receded, and the river made longer reaches. The sun was setting when we came in sight of the bridge and town of Monmouth, and then the Wye lay before us like a broad path of burnished gold. We had spent a long summer's day between Ross and the last-named town, and can most cordially recommend every lover of Nature, who has it in his power, to do the same thing at least once in his life.

Monmouth, "delightsome Monmouth," is another quiet, romantic town, which seemed to us, what the poet Gray declared it to be, "the delight of the eye and the very seat of pleasure." It stands near the conflux of the Monnow with the Wye, on a gently-rising ground, that throws out the houses like the seats of an amphitheatre, and gives a fine elevated platform for the church with its tall steeple. It is surrounded by smiling declivities and gently-swelling hills, that are mostly covered from the water's edge to the summit with pleasant little woods, or laid out in corn-fields or pasture-meadows. The interior of picturesque towns is not always the most comfortable. Monmouth, however, has a broad and handsome street, a capacious market-place, and seems clean and neat throughout. The remains of the priory, with an apartment they pretend was the study of that splendid romancer (once taken for an historian) Geoffrey of Monmouth, the old Saxon church of St. Thomas, near the Monnow Bridge, and particularly the low, sombre, round-arched interior of that church, will agreeably occupy an hour or two within the town. As for the castle, it is gone—the last of its tottering walls fell down suddenly some years ago. In his time, Gilpin said of it, "The transmutations of time are often ludicrous. Monmouth Castle was formerly the palace of a king and the birthplace of a mighty prince: it is now converted into a yard for fatting ducks." But as we found it, this royal pile scarcely afforded room for Gilpin's antithesis, the walls not being sufficient even to restrain the wanderings of a *fatted* duck. Against one dislocated bit of a wall a shed had been erected for the stabling of cart-horses and asses.

From the summit of the Kymin rock, which rises on the left bank of the Wye, and is situated partly in Monmouthshire and partly in Gloucestershire, there is another extensive and beautiful view, of a totally different character from that obtained on Symond's Yat. This variety, indeed, is one of the great charms of the Wye. From Ross to the river's mouth the character of the scenery is scarcely ever the same for a quarter of a mile. On the centre of the Kymin, overhanging the town of Monmouth and the river, there is a circular pavilion, like an embattled tower, which is made easy of access by means of a walk which winds gently up the acclivity.

When we embarked the next day below Monmouth Bridge, a glorious summer sun lighted up all the scenery, and made it indeed look like a holiday spot of earth. A little below the town the Monnow flows into the Wye with a full stream. For some distance the banks are low, and fine green meadows shelve from the hills to the water-side; and then the banks again become bold, rocks protrude, and woods appear on either side. Troy House, with a solemn forest near it, the romantic church of Penalt, the scattered village of Red-brook, with its iron-forges and its tin-works, White-brook, with its paper-mills, Pen-y-van Hill, Big's Weir House, with the church and the ruins of the Castle of St. Briaval's in the distance, are among the beautiful features of this changing picture. In some parts the bed of the river is roughened and straitened by shelves and projecting rocks, which produce ripples, and, here and there, miniature falls and rapids. A barge or two, making their way against the stream, had to tack and manœuvre in a curious manner. In several places these shelves of rock lie right across the river, like artificial weirs, having very little water over them. At Big's Weir, where the current is very rapid, the river eddies over fragments of rock, which leave only a narrow open space for the passage of boats. Near to this place a new and very graceful bridge, called Big's-weir Bridge, spans the river with a single arch. The road from Chepstow to Monmouth, which runs partly on one side of the river, and partly on the other, is connected by this bridge. From this point a fine bold reach, with Tiddenham-Chase Hill rising nobly in front, leads to the lovely hamlet of Landogo, which is situated on a small plain, on the right bank, tufted with woods, and backed by an amphitheatre of lofty hills. The little church peeps out beautifully from amidst the trees upon the river, which there forms a smooth and capacious bay. Taken altogether, this is one of the *prettiest* scenes upon the Wye.

Below this point the Wye becomes a tide-river, and loses one of its great beauties, which is the purity and transparency of its waters.

A little farther, on the left bank of the river, the populous village of Brook's Weir presents a scene where utility unites with beauty. There is a commodious little port, where several sloops and schooners, from thirty to eighty tons burden, were discharging or taking in their cargoes. One or two vessels were on the stocks; and the sound of the ship-builder's adze and hammer rang cheerfully and almost musically from the bank. A number of white, comfortable-looking cottages and elegant little villas, scattered about the hills in the neighbourhood, prove the prosperity of the place. Soon after passing Brook's Weir, we rounded the point of Lyn Weir, and then, at the end of the reach, we saw the glorious ruins of Tintern Abbey, and the white-walled village of Tintern partially embosomed in trees and backed by beautifully-shaped hills, wooded to their summits. Had the Wye nothing else to boast of than Tintern Abbey and Chepstow Castle, which the German tourist declares to be "the most beautiful ruins in the world," it ought to attract travellers, and particularly English travellers, from far and near. We

passed two delightful hours among the ruins, over whose ivied walls and stately columns a few floating summer clouds, and then the streaming sunshine, produced the happiest and most varied effects. The silence of the holy place (when we had succeeded in suppressing the ignorant garrulity of the man who shows the abbey) was perfect, the only sounds heard being the low, mysterious whisperings of the winds among the trees and the high-pointed arches, and "the sweet inland murmur" of the River Wye.

As we have given a description of these splendid ruins, and a sketch of the history of the abbey, in the eighty-third Number of the 'Penny Magazine,' we will go on, and request the reader's attention to the remainder of the tour.

On continuing our voyage, saturated with scenic beauty as we were, we hardly expected to be again thrilled, or roused into enthusiasm, by anything else; but the windings of this wonderful river soon brought us in sight of objects as grand as, and totally different from, any we had seen; and from Tintern to Chepstow our admiration was scarcely left idle for a single moment. In fact, though Gilpin and most of the guide-books pass slightingly over it, and though it is the fashion to recommend tourists to neglect it, we question whether any part of the Wye is grander than the last part of its course, particularly when the river is full, the sludgy shores covered, the tide just on the ebb, and the sun declining. Here it presents some of the most remarkable of its sudden turns and windings, now making long, narrow promontories on this side, and now on that, and washing, in short reaches, the bases of tremendous precipices of bare, strangely-coloured rock. A little below Tintern, we came upon Banagor Crags,—a long, lofty, perpendicular, and most sublime rampart, bare as a wall except where a few shrubs shoot out, opposite to which the river is skirted by narrow slips of rich pasture rising into wooded acclivities, on which abruptly towers the Wyndcliff,—a nearly perpendicular mass of rock rudely overhung with thickets, stated to be 800 feet high. At this place the Wye turns suddenly round the fertile, smiling peninsula of Lancaut, having the stupendous amphitheatre of Piercefield Cliffs on the right bank. The little peninsula, sloping down from Tiddenham Chase, ends in pleasant meadows and flats, where a few cottages and a church show themselves. The opposite cliffs start up from the water's edge, looking like enormous buttresses, and here and there throwing out bold, fantastic projections. Twelve of these projecting rocks have been christened by the country people "The Twelve Apostles," and a thirteenth, which points towards the sky, and has a rude resemblance in shape to a thumb, they call "St. Peter's Thumb." The summit and edge of these cliffs are fringed with the noble woods and plantations of Piercefield; and, as we passed them, approaching evening had shed the most beautiful harmonizing shades and hues on their rough sides. Presently the river again turns, and then, the grand ruins of Chepstow Castle rising from the very edge of lofty precipices, the bridge, and part of the picturesque town of Chepstow, present themselves in almost magical combination. The ruins look more like the remains of a city than of a single castle, and, under certain lights, the eye looking upwards from the river does not readily distinguish them from the cliffs on which they stand, or perceive where the rocks end and the walls begin.

Passing under the new iron-bridge, which is not "elegant, light, and airy," as the guide-books style it, but massive and grand, we found ourselves in Chepstow harbour, which was crowded with shipping. There we landed, and left the river, which falls into the noble estuary of the Severn about two miles farther on. The town of Chepstow is built on a hill gradually ascending from the river, and it is as cheerful and animated (not without something of an old-fashioned ancient air) within as it is externally picturesque.

Our first visit the next morning was to the venerable castle which loses little of its sublimity on a near view, as its towers, though "decayed and rent," are still lofty, and its frowning walls and battlements in some parts almost entire.

The Romans are supposed to have had a fortress at this commanding point, but nothing of their work, except some of their excellent bricks built up in the chapel walls, and one or two other walls of the castle, is now visible, and the edifice is generally attributed to the Normans, who built it at the end of the eleventh, and improved and enlarged it in the thirteenth, century. The styles of successive eras of architecture are visible in different parts of the extensive building in the windows and door-ways, and various accessories, which were added from time to time. In the low rounded arches we are reminded of the Saxon and early Norman style. The castle stands in an irregular parallelogram, having the perpendicular cliffs on one side, and a deep moat, with massive walls flanked with towers, on the other sides. The area occupies a very large tract of ground, and is divided into four courts. The grand entrance to the east is a circular arch between two round towers, and this leads into the first court, which contains the shells of the grand hall, kitchen, and many spacious apartments retaining a few melancholy vestiges of baronial splendour. A few of these rooms are still inhabited, and the construction of their old chimnies is worthy of attention: they are handsomely decorated on the outside, and the inside is glazed, which prevents the accumulation of soot. Archdeacon Coxe says, that the principal chimney in the inhabited part, which had been in constant use, did not require sweeping for eighty years. At the south-eastern angle of the first court the round tower which was formerly the keep is now always called Harry Marten's Tower, from the circumstance of that old republican having passed twenty years of captivity in it: at the western side of the court, near a round tower called the old kitchen, a gate gives access to the second court, (now a garden with pleasant trees in it,) at the opposite side of which another gateway leads into the third court, and to a graceful but roofless and half-ruined building, commonly called the chapel, wherein, though somewhat mixed up with the old Norman, the fine Gothic style of a later period is beautifully prominent. A stair-case ascends from one corner of this court to the battlements and towers, whence a fine view is obtained of the Wye and part of the estuary of the Severn. A sally-port opens into the fourth or last court, which is the smallest of the four, but shut in by a fine old tower, through which was the western entrance to the castle. The interior of these extensive ruins presents some grand and several beautiful combinations. Ivy and delicately-coloured wild flowers profusely decorate the walls, and as we walked along the battlements under a bright, cheerful sun, the whole scene was rather gentle and agreeable, than gloomy and awful.

Twenty years in a dungeon has an awful sound, suggesting the notion of an incalculable amount of human suffering, and therefore we were glad to see that Harry Marten's tower was not the horrible place the poet Southey once described it to be; and to recall to our minds the well-authenticated fact, that during his latter years his confinement was very mild, and the whole treatment of him considerate and merciful.

It is scarcely necessary for us to remind our readers that Marten was one of those bold, and in most cases sincere, men who sat in judgment upon Charles I., and signed the warrant for his execution. At the Restoration he was brought to trial, and sentenced to death; —but his sentence was afterwards commuted for imprisonment for life. In Chepstow he lived twenty

years, and here he died, at the advanced age of seventy-eight, in 1680. His apartment, instead of being cold and dark, never admitting "the sun's delightful beams," had three windows and two fire-places. His wife was allowed to live with him, and over the good-sized room he occupied there was another room for his domestics. The ceiling and floor that separated them are now fallen in. At the time of Coxe's visit, there was a Mrs. Williams, a very old lady, residing in the castle, who recollected two of his maid-servants who had saved a good deal of money in his service, and who always mentioned Marten as a kind, good master. He was the son of Sir Henry Marten, a distinguished lawyer and judge of the Admiralty, and was born at Oxford in 1602.

After passing an hour in Chepstow Castle, we found our way out by the western tower, and then crossing some fields came upon the Tintern road, which, in a few minutes, led us to one of the lodges and entrances of Piercefield Park, a truly beautiful place, occupying an irregular and very extensive area between the high road and the precipitous cliffs of the Wye. From the woods and plantations, which cover a bold, broken ground, and run close to the edge of the cliffs, the eye commands some of the finest views in England; and these views are varied at almost every step by the windings of the path, the changing foreground,—now of jagged rocks, now of majestic trees,—and by other accidents of elevation or depression. The guide-books set down by name nine particular points, each of which is furnished with benches or rustic seats, but there are twenty more almost equally fine. Looking across and up the river, we saw under a different aspect much of the grand rock-and-cliff scenery we had passed the day before; and, in the earlier part of the walk, on looking down the river, or to the east, the towers of Chepstow Castle,—the town,—the bridge,—the shipping,—the red cliffs on the Gloucestershire Wye, a ridge of hills which conceals the mouth of the river, and then the broad estuary beyond it,—all stood out in most picturesque effect.

These walks extend almost from the moat of the castle to the foot of the Wynd Cliff, and are about three miles long, if you follow all their sinuosities. At their farther extremity we issued again forth upon the Tintern road, and were presently climbing up the steep sides of the Wynd Cliff, which would be almost inaccessible on the river side, but for some ladder-like steps that have been arranged, and some zigzag paths that have been cut in the rock. In the rear of the cliff there is a much easier ascent. We mention this, because the fatigue may deter some persons from climbing up in front, and because the view on the summit is too fine and extensive to be lost. There, standing on the edge of the loftiest rock, the eye embraces a considerable part of the counties of Monmouth, Gloucester, Hereford, Brecon, Glamorgan, Worcester, Somersetshire, Wiltshire, and Devonshire,—the river and the estuary of the Severn, with Kingroad and the broad Bristol Channel expanding into the great ocean. The scenery of the winding river, which washes the foot of the mighty cliff on which you stand, is seen to a great extent,—and at this grand point we take our leave of the lovely Wye.



[Chepstow Castle.]

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SOHO—BIRMINGHAM.



[Soho.]

SOHO, although essentially appertaining to the great manufacturing town of Birmingham, is situated about two miles from the centre of the town, upon the road to Wolverhampton, and although but a few yards beyond the parish of Birmingham, is in a different county—that of Stafford.

The declivity of the hill which is now covered with the buildings and plantations of this magnificent establishment, was, previously to 1757, a barren heath occupied only by rabbits and by a warrener, whose hut was on the summit. In that year, the spot with some contiguous land, was leased for ninety-nine years to Messrs. Ruston and Evans, who erected a house and a mill for rolling metal. In 1762 the whole was bought by Mr. Boulton, who rebuilt and enlarged the mill, and soon after removed his manufactory thither from Birmingham; but the works not being found sufficient for the vast undertakings upon which his increasing means enabled him to enter, he laid the foundation of the present manufactory in 1764, and it was finished in the following year. Mr. Boulton at the same time erected a handsome private house for his own residence. The manufactories consist of four squares, with connecting ranges or rather streets of warehouses, sufficiently extensive for the accommodation of 1000 workmen, and where upwards of 600 are usually employed.

No expense has been spared to render the works uniform and handsome in architecture, as well as neat and commodious. The same liberal spirit and taste have been displayed in the adjoining gardens and pleasure-grounds, and render Soho much admired for its picturesque beauty. Warner, in his 'Tour through the Northern Counties,' praises the commanding situation of the house, the tasteful disposition of the grounds, and the manufactories "as striking for their neatness as magnificence," and adds, "the different features of the place form a strikingly fine whole, both grand and beautiful; the more interesting when we consider that it is entirely the creation of modern years, formed by the combined operation of taste, science, and wealth, out of a desolate heath inhabited only by a colony of rabbits." We are glad to find the same writer afterwards saying, "As much praise is due to the highly-gifted proprietors of

o for their attention to morals as to scientific improvements in their extensive works, which has shown itself in the orderly and citizen-like behaviour of the little army of labourers employed upon them. All is decorum, cleanliness, and decency throughout the works; the pleasing effects of good example and wise regulations." This, which was written in 1801, is not less true now.

At the commencement of this great manufactory its productions were only such as were usually made by the artists in this part of the country, namely, buttons, buckles, watch-chains, trinkets, and articles of a similar description. In a short time, however, the manufacture of plated wares on a large scale was likewise introduced; and when these and other useful branches of manufacture had been firmly established, the proprietors (for Mr. Boulton had by this time been joined by a Mr. Fothergill) began to bring forward works of elegance and grandeur in bronze and *or molu*. Their plans were princely. They established an extensive mercantile correspondence throughout Europe; and held forth every encouragement to men of talent in drawing, modelling, and other branches of the arts. Their works consisted of all kinds of vases, candelabra, clock-cases, watch-stands, and similar ornamental articles. This novel manufacture was no sooner fairly begun than it received the sanction and encouragement of the king and the principal nobility of the kingdom. With this support the proprietors were soon enabled to bring the manufacture to a high state of perfection. Not only was the importation of articles of the same kind from France very materially reduced, but a new and valuable branch of commerce was thus opened with the principal cities of Europe.

This success encouraged the enterprising proprietors to embark in new undertakings; and their next principal one was of no less novelty and of much more importance than the former. It was the manufacture of articles of silver, to facilitate which they succeeded, after considerable difficulty, in obtaining the establishment of an assay-office at Birmingham for testing the purity of the metal. Since the attainment of this object, silver plate has been a prominent article among the many rich productions of Soho, to the extension of which far beyond the limits that at first seemed probable the steam-engine has since, in no ordinary degree, contributed.

To the steam-engine we now come, for it was at Soho that Watt was enabled to mature his plans and carry them into full effect. We cannot of course enter into the history of the steam-engine here, but may state a few facts which will illustrate the nature of the connexion of that mighty and universal agent with Soho.

When Watt's partner, Dr. Roebuck, became unable to render him the stipulated assistance in his undertakings in consequence of the pecuniary embarrassments which followed the failure of some mining speculations in which he had engaged, Watt was so much discouraged, that he was on the eve of abandoning the further prosecution of his plans. Mr. Boulton had at this time become well known as one of the most intelligent and enterprising manufacturers in the kingdom; and, with the consent of Mr. Watt, a negotiation was opened with him and was brought to a conclusion in 1773, when Dr. Roebuck resigned his share of the steam-engine patent to Mr. Boulton on terms very advantageous to himself. This was one of the most happy events in the career of Watt, for his new partner was a man of wealth and of great personal influence: "to a most generous and ardent mind," says Playfair, "he added an uncommon spirit for undertaking what was great and difficult. Mr. Watt was studious and reserved, keeping aloof from the world; while Mr. Boulton was a man of address, delighting in society, active, and mixing with people of all ranks with great freedom and without ceremony. Had Mr. Watt searched all Europe he could not have found another person so fitted to bring his invention before the public in a manner worthy of its merit and importance; and, although of most opposite habits, it fortunately so happened that no two men ever more cordially agreed in their intercourse with each other." Watt himself more than confirms this account of the "princely Boulton," whose name occupies no second place among those of the large-minded and honourable men to whom our various manufactures are indebted for their introduction and improvement. When, in 1809, he finally closed his long and active career, Watt took an opportunity of speaking of his obligations to his lamented friend. He alludes in the first instance to the renewal of his patent, which was obtained from Parliament about the time that his partnership with Mr. Boulton commenced:—"At the procuring of this Act of Parliament I commenced a partnership with Mr. Boulton, which terminated with the exclusive privilege in 1800, when I retired from business; but our friendship continued undiminished to the close of life. As a memorial due to that friendship, I avail myself of this, probably a last, public opportunity of stating, that to his friendly encouragement, to his partiality for scientific improvements, and his ready application of them to the processes of art, to his intimate knowledge of business and manufactures, and to his extended views and liberal spirit, must, in a great measure, be ascribed whatever success may have attended my exertions." The incalculable value to Watt of such a partner as this may be best estimated by the fact, that the firm expended no less a sum than 47,000*l*. on the speculation in Watt's steam-engines before they began to receive any remuneration.

When Watt went to Birmingham, part of the establishment at Soho was appropriated to his use, and with the advantages he there enjoyed he soon produced some capital engines. They came but slowly into use, but in time found their way into the mines and manufactories all over the kingdom. It was ultimately found necessary to erect, at a convenient distance, an iron-foundry, to which comes a branch of the Birmingham canal, whereby coals, iron, sand, &c., were brought to a wet dock within the walls, and the engines and other heavy goods transported in boats to every part of the kingdom. The firm, however, did not confine its attention to the manufacture of engines, but devised means of applying their powers to various operations in the manufactures of Soho. Thus the extensive experience of the proprietors enabled them to apply a steam-power to the boring of cylinders, pumps, &c., to drilling, to turning, to blowing their melting-furnaces, and to whatever tended to render their manufactures more perfect and to abridge human labour.

But of all the different processes conducted at Soho perhaps none have, first and last, attracted more attention than the application of steam to coining at the Soho Mint. The coining-mill, or engine, which Mr. Boulton first established there in 1783, was afterwards much improved, and ultimately not only produced coins with astonishing expedition but with an accuracy which the coinage of this country had not previously exhibited. The engine in this mint, as thus improved, worked at once eight machines, each capable of striking from 70 to 84 pieces in a minute, or between 4000 and 5000 in an hour, so that the eight machines together would produce between 30,000 and 40,000 coins in one hour. The following are the processes executed by these machines as operated upon by the steam-engine:—rolling the masses of copper into sheets; fine rolling of the same cold through cylindrical steel-rollers; clipping the blank pieces of copper for the die; shaking

the coin in bags; striking both sides of the coin at once and milling the edges, and immediately displacing it and placing another for the same operation. To their other properties the machines add that of preventing fraud by keeping an accurate account of the coin on which it operates. By this machinery, a few boys of twelve years of age are able to coin about 200,000 coins in the course of six hours. These processes have been thus poetically described by Darwin, with a particular reference to Soho.

"Now his hard hands on Mona's rifted crest,
Bosom'd in rocks, her azure robes arrest;
With iron lips his rapid rollers seize
The lengthen'd bars in their expansive squeeze;
Descending screws with pond'rous fly-wheels wound
The tawny plates, the new medallions round;
Hard dies of steel the cupreous circles cramp,
And with quick fall his massy hammers stamp.
The harp, the lily, and the lion join,
And George and Britain guard the splendid coin."

The improvement in the coin itself may be seen by a comparison of the copper coins before and since 1799, in which year Mr. Boulton contracted for the copper coinage on his improved principle; since which time no alteration has taken place, except perhaps a little improvement in the finish. As this is a point of some interest, we may state the difference between this and previous coinages in the words of a paper circulated in November, 1779.

"*Soho Mint.*—This mint, invented and executed by Mr. Boulton, is perfectly new in its principles; and is more accurate in its performance, and more powerful in its effect, than any mint in Europe. The coin produced by it differs from all money coined by any other means in the following particulars:—it is perfectly circular; and all pieces of the same denomination are of equal diameter; by which means it is subject to a double trial, viz., both of measure and weight; but guineas and *louis d'ors* are only properly examinable by their weight, none of them being perfectly circular, so that a steel gauge is not correctly applicable to them, but to Mr. Boulton's money it is applicable. The concavity of the new halfpence and farthings protects the devices, and makes it difficult for the false coiner to imitate by dies, for want of a sufficiently nice apparatus to execute the money in that form; and the indented milled edges will prevent imitation by the common mode of casting in sand moulds. The surface of this money is clearer and smoother than that of any copper money ever put into circulation, though not so perfect as gold and silver coin may be made. The superiority and difficulty of the workmanship, and the intrinsic value of the money, will prove great hindrances to counterfeiting; and it is hoped that a full supply of this money, equal to the public demand, will in a short time put all the false money out of circulation."

Of the produce of his mint the copper coins now in circulation are specimens; besides which copper has been coined by contract for the different European states, for the East India Company, and for the Americans. Mr. Boulton's improvements in the coining mill, originally brought into operation at Soho, have also been adopted at the Tower Mint, and by various European governments. This has tended greatly to the improvement of the modern coinage, not only in copper, but in silver and gold, the same process being of course applicable to other metals. Indeed both gold and silver have on different occasions been coined at Soho, not to speak of the various exquisite medals which have from time to time been struck there.

In this account we are obliged to leave even unenumerated many of the enormous or minute processes, and the massive or delicate works executed at Soho; and have perhaps not succeeded in conveying any very adequate idea of those of which we have spoken. It would be doing injustice to this great theatre of practical art, and to the able and large-minded man by whom it was established and to whom its glory is owing, if we separately considered the various improvements which have issued from thence, or regarded only their personal effects as to Mr. Boulton and his partners. Soho, although a nominally private concern, has, in point of fact, been an establishment of the very highest national importance; and this not only in its large operation upon the commercial interests of the nation, in extending the power of man, and in enlarging the comforts and conveniences of life, but also in improving, in a degree beyond calculation, the public mind by the encouragement it has given to artists of all descriptions, and still more by the healthy rivalry and competition in skill which is kept continually in exercise.

JOHN KYRLE—"THE MAN OF ROSS."

[In our last Supplement we gave an account of the principal works of this eminent benefactor to the town of Ross, and we now add a few notices of his personal habits and character, which we trust will not be uninteresting.]

The Rev. T. D. Fosbroke, in a local guide-book, which is superior to the generality of such works, has collected several little particulars concerning the hearty social old bachelor, which are the more interesting from their naiveté and homeliness. It appears that honest John was entered a gentleman commoner of Baliol College, Oxford, in 1654, that he was intended for the Bar, but soon relinquished all thoughts of that profession, and returning to Ross gave himself up to agriculture and building, and the improvement of his native town. An old maiden cousin, of the not very euphonous name of Bubb, kept house for him many years. In his person John was tall, thin, and well-shaped: his health was remarkably good, and he scarcely knew any of the frailties of old age until within a very short time of his death. His usual dress was a suit of brown *dittos*, and a king William's wig, all in the costume of his day. He disliked crowds and routs, but was exceedingly fond of snug social parties, and "of dinnering his friends upon the market and fair days." He was also exceedingly pleased with his neighbours dropping in without ceremony, loved to make a good long evening of it, enjoyed a merry story, and always seemed sorry when it was time to break up. His dishes were generally plain and according to the season, but he dearly loved a goose, and was vain of his dexterity in carving it, during which operation, which he invariably took upon himself, he always repeated one of those old sayings and standing witticisms that seem to attach themselves with peculiar preference to the cooked goose. He never had roast beef on his table save and except on Christmas day; and malt liquor and good Herefordshire cider were the only beverages ever introduced. At his kitchen fire there was a large block of wood, in lieu of a bench, for poor people to sit upon; and a piece of boiled beef, and three pecks of flour, made into loaves, were given to the poor every Sunday. The number he chose at his "invitation dinners" was nine, eleven, or *thirteen*, including himself and his kinswoman, Miss Bubb; and he never cared to sit down to table on such occasions till he had as many as made one of those numbers. He not only superintended the labours of the road-makers, planters, and gardeners, but commonly took an active part in them himself, delighting above all things in carrying a huge watering pot to water the trees he had newly set in the earth. "With a spade on his shoulder, and a glass bottle of liquor in his hand, he used to walk from his house to the fields and back again several times a day."

TYROL.—No. III

The Waterfall of Golling.



[Waterfall of Golling.]

The river Salza, or Salzach, rises in the mountains of the Tyrol,—but it is in Austria Proper that it runs the greater part of its course, at first pursuing a westerly direction, parallel with the Noric Alps, and then flowing northward at no great distance from the Bavarian frontier, until it joins the River Inn, which forms the north-eastern boundary of Bavaria.

The tourist who is already familiar with Switzerland would find much to delight and interest him if, after lingering some time in the Tyrol, he were to track the Salza from its source on Mount Brenner to its junction with the Inn, especially as this is not a beaten track with tourists. The valleys of the Tyrol are more extensive and magnificent than those of Switzerland,—

seventy or eighty miles long, and sometimes eight to ten broad. The memorials of another age are there more frequently mingled with the beauties of natural scenery than in Switzerland, where castles and ruins are seldom observed. In Switzerland the sublime is oftener excited; but Mr. Inglis, one of the most recent travellers in the Tyrol, doubts whether, in the latter country, the love of the beautiful and the picturesque is not more frequently gratified.

The valley of the Salza is extensive, and the river is rendered impetuous by passing alternately through ravines and mountain defiles. The climate near the source is severe, and the snow lies there for several months in the year. About June the heat becomes very great, and the sirocco occasionally penetrates even to these regions; but it seldom lasts more than a few hours, and though sensibly felt, its effects are greatly lessened, and its power is chiefly shown in melting the snows and causing a sudden flood. The Salza begins to be navigable at Hallein, about twenty miles above the Inn. At five miles from its junction it passes by Salzburg, celebrated for its salt-works. The Waterfall of Golling is in the upper part of its course, a few miles from Hallein, near a mountain which rises 2572 feet above the level of the sea. Notwithstanding its grandeur, and the bold and romantic scenery which surround it, it is comparatively little known, owing to its not lying in the usual path of tourists. The stream, as is shown in our view, has perforated the rock in its descent, and falls in a sort of curtain over the lower part of it into the channel at the foot. The annexed view was taken on the spot.

ILLUSTRATIONS OF TOBACCO-SMOKING

There is certainly no human habit with which so many curious considerations are connected as with that of tobacco-smoking. The habit is more perfectly artificial than almost any other in which man indulges; and there are few which are more repulsive to the natural taste. It is generally disagreeable to those who do not practise it; those who do, have, in the first instance, acquired it with effort and difficulty; and many of those who try are unable to acquire it at all. Now the wonder is, how it happens that a habit of this description, which seems to contain in itself fewer elements of propagation than almost any other, should exceed all others in the extent of its diffusion. In extent, it embraces the circumference of the globe; it comprehends every class of people,—from the most savage to the most refined,—and includes every climate, from Siberia to the equator, and from the equator to the extreme south.

What renders this the more surprising is the comparatively recent period within which the habit has become thus extended: 250 or 300 years is a short time for a habit to gain all but universal prevalence. We have given some attention to the history of this habit, regarding it as a sort of phenomenon well worthy of the best attention that could be applied to it; and the result is, that we see no reason to doubt that America is the source from which the usage has extended to all other countries. Having witnessed the devotion to the use of this herb of the entire population in Turkey, Persia, and other eastern countries, and the refinements which they have thrown into the art of smoking, we were at one time disposed to question whether the usage could be so recent in the East as we know it to be in Europe, particularly as it seems difficult to form an idea of a Turk or Persian separately from the pipe which is now so indispensable to him, and which occupies so serious a portion of his time and attention. It has indeed been contended that the East did possess the herb before the use of it was imported from America into Europe; but we are persuaded that this is an error. Tobacco-smoking is never mentioned in Oriental works of an earlier date, which minutely describe the usages of the Orientals—'The Arabian Nights' Entertainments,' for instance; neither is it noticed by any old travellers, although, from the prominent place it occupies and the ceremonies connected with it, there must in both instances have been frequent allusion to it, if it then existed.

The Chinese, indeed, according to Bell, pretend to have been tobacco-smokers for many ages. But there was probably some misunderstanding here, either on the part of Bell or his informants. They may certainly have had the habit of smoking, but hardly of tobacco-smoking. They might formerly, as now, have smoked other substances than tobacco; and the assertion, as made or understood, did not perhaps distinguish between the general habit of smoking and the particular use of tobacco. There is every probability that the Chinese first received tobacco from India, to which country the seeds of the plant were first taken by the Portuguese in the year 1599.

For nearly thirty years subsequently to that period the Portuguese had settlements in the Persian Gulf, and it appears to have been during this time that the use of tobacco was introduced into Persia. We may presume that the Portuguese created the taste, and supplied the commodity from India; besides which the Persians themselves had then, and always have had, much personal intercourse with that country. This is not merely a matter of conjecture, for, in 1628, two years after the expulsion of the Portuguese from the gulf, we find the Persians still obtaining large supplies of tobacco from India. Sir Thomas Herbert, who was that year in Persia, relates the following circumstance which occurred at Casbin. "It seems that forty camels, entering laden with tobacco out of India, (the drivers being ignorant of a late prohibition, the king sometimes commanding and restraining as reason of state invited,) Mamet Ally-beg, the favourite (wanting his piscah*), commanded the penalty to be executed, which was to crop their ears and snip their noses; offering withal to his angry justice a dismal sacrifice of forty loads of tobacco, which was put into a deep hole that served as a pipe, and being inflamed, in a black vapour gave the citizens *gratis*, for two whole days and nights, an unpleasing incense."

The Turks seem to have received the habit and the commodity immediately from Europe, about the same time that Persia received it from the East. Indeed, the inhabitants of Eastern Turkey may have taken it from the Persians, or in the same way that the Persians themselves did. Sir Thomas Herbert, when at Bagdad, (which, a few years before, had been in the possession of the Persians,) mentioning the coffee-houses, which he calls "Coho-houses," where the inhabitants assemble towards evening "to sip coffee, a Stygian liquor, black, thick, and bitter," says, that in these houses they also inebriated themselves with arrack and tobacco. Sandys, an earlier authority, who was at Constantinople in 1610, is more explicit and satisfactory on the subject, and expressly describes tobacco-smoking as a habit new to the Turks. He says, "They also delight in tobacco: they take it through reeds that have joined unto them great heads of wood to contain it,—I doubt not but lately taught them, as brought them by the English; and were it not sometimes lookt into (for Morat Bassa not long since commanded a pipe to be thrust through the nose of a Turk, and so to be led in derision through the city), no question but it would prove a principal commodity. Nevertheless, they will take it in corners, and are so ignorant therein, that that which in England is not saleable doth pass here among them for most

* Present. It seems that the men neglected to purchase his connivance.

excellent." This probably means no more than that the Turks did then, as they and other eastern people still do, prefer a milder kind of tobacco than that which has been commonly used in England. The pipes he describes are just the same as those now in common use, except that the large bowl is now of earthenware. We on our part have also retained the use of the original diminutive and slender pipes, the small capacity of which is adapted rather to the extreme dearness of the commodity when first introduced than to its comparative cheapness at present.

In England, tobacco was first introduced about the year 1578, according to Stow, who adds that Sir Walter Raleigh was the person that brought it into use, when all men wondered what it meant. Yet he says, in the same page, that tobacco was brought to England, and made known there in 1656 by Sir John Hawkins. He probably means that it was brought in 1656 as a curiosity, and in 1678 as an article of consumption.

Malcolm has preserved a tradition which existed in the parish of St. Matthew, Friday Street, that Sir Walter Raleigh used to sit at his door smoking with Sir Hugh Middleton in the reign of Queen Elizabeth. "The custom was probably promoted," adds Malcolm, "through the public manner in which it was exhibited, and the aromatic flavour inhaled by the passengers, exclusive of the singularity of the circumstance and the eminence of the parties. Indeed, the two last motives are alone adequate to establish a custom ten times more loathsome than King James describes tobacco-smoking to be."

Stow, who speaks of tobacco as "a stinking weed, so much abused to God's dishonour," seems to say that the use of tobacco gained ground but slowly during the reign of Elizabeth; but adds that, when he wrote (1631), it was "commonly used by most men and many women:" at any rate it does not seem to have met with any serious opposition in the Queen's time. Spenser, in the 'Faery Queen,' calls it "divine tobacco;" whether *he* indulged in the use of it does not appear, but he probably spoke thus respectfully of it out of compliment to his friend and patron Sir Walter Raleigh. Tobacco, however, has everywhere had a storm of opposition to encounter at some period of its history in every country. It was not exempt in England from this its peculiar lot. James ascended the throne, and tobacco was called "divine" no more. About the time that the Turkish Vizier was thrusting pipes through the noses of smokers, and the Shah of Persia was cropping their ears and snipping their noses, the British Solomon was writing a book against the same unhappy class of persons. It is doubtful whether this monarch's famous 'Counterblast to Tobacco' had even a temporary effect in checking the practice, except within the sphere of the court, among those who lived in dependence on his favour. We extract a few passages which seem best to illustrate the estimation in which tobacco-smoking was held by the king, and the forms in which the usage then appeared. The following shows that the habit was at that time indulged with greater excess and less decency than at present.

"And for the vanities committed in this filthy custom, is it not great vanity and uselessness that at the table, a place of respect, of cleanness and of modesty, men should not be ashamed to sit tossing of tobacco pipes, and puffing of the smoke one to another, making the filthy smoke and stink thereof to exhale across the dishes, and infect the air, when very often men that abhor it are at their repast. * * * But not only meal time, but no other time nor action, is exempted from the public use of this uncivil trick. And is it not a greater vanity that a man cannot welcome his friend now, but straight they must be in hand with tobacco [quite an oriental custom this.] No, it is become, in place of a cure, a point of good fellowship, and he that will refuse to take a pipe with his fellows (though by his own election he would rather feel the savour of a stink) is accounted peevish and no good company, even as they do with tippling in the cold eastern countries. Yea, the mistress cannot in more mannerly kind entertain her servant than by giving him out of her fair hand a pipe of tobacco."

The case being thus, the king had certainly some cause to be angry. The next extract is richly characteristic both of the king and the custom.

"Is it not the greatest sin of all, that you, the people of all sorts in this kingdom, who are created and ordained by God to bestow both your persons and goods for the maintenance both of the honour and safety of your king and commonwealth, should disable yourselves in both. In your person that you are not able to ride or walk the journey of a Jew's sabbath, but you must have a reekie coal brought you from the next poor house to kindle your tobacco with. * * * Now how you are by this custom disabled in your goods, let the gentry of this land bear witness, some of them bestowing three, some four hundred pounds a year upon this precious stink, which I am sure might be bestowed upon many far better uses."

This seems hardly credible, and Brand suggests that Scotch pounds are intended. This is possible; but we are to bear in mind that tobacco was then very costly, and, as it seems, more abundantly used in the upper and middle classes than at present. Besides, it also appears that a person had to provide pipes for visitors and guests, which must have extended his expenses greatly beyond what his own indulgence of the habit required.

The following pious sentence is exquisite in its way:—

"But herein is not only a great vanity, but a great contempt of God's good gifts, that the sweetness of man's breath, being a good gift of God, should be wilfully corrupted by this stinking smoke."

The king, in concluding his fulminations against tobacco-smoking, characterises the habit as—"A custom loathsome to the eye, hateful to the nose, harmful to the brain, dangerous to the lungs, and, in the black stinking fume thereof, nearest resembling the horrible Stygian smoke of the pit that is bottomless."

The same monarch was wont to profess that if he were to invite the devil to a dinner he should have the following three dishes,—"1st. a pig; 2nd. a poll of ling and mustard; and, 3rd. a pipe of tobacco for digesture."

We shall give our remaining space to a few other early allusions to the use of tobacco, and anecdotes concerning it, which we have collected from various sources.

In 1616, a Derbyshire gentleman, named Peter Campbell, made his will, bequeathing to his eldest son all his household goods towards housekeeping, on the condition that if thereafter any of his brothers or sisters should find him smoking tobacco, that he or she so finding him should become entitled to the said goods or the full value of them in money. The king's 'Counterblast' probably had its effect on this person.

Lilly, in the History of his Life and Times, mentions a clergyman of Buckinghamshire who, according to this account, was a very able person, "but so given over to tobacco and drink, that when he had no tobacco (and I suppose not too much drink) he would cut the bell-ropes and smoke them." This is another fact seeming to show that tobacco was a costly commodity at that time.

Francis Quarles, in his 'Emblems' (first printed in 1630), has one hieroglyphic which represents the being

who with him is the representative of human nature, or of mankind at large, as seated upon a globe (the world), to which he is chained by the leg. He is occupied in smoking from a pipe exactly like the present common pipes of clay. The following is the commencement of the poem which accompanies this cut:—

"Flint-hearted Stoics, you whose marble eyes
Contemn a wrinkle, and whose souls despise
To follow nature's too affected fashion,
Or travel in the regent walk of passion;
Whose rigid hearts disdain to shrink at fears,
Or play at fast and loose with smiles and tears;
Come, burst your spleens with laughter to behold
A new-found vanity, which days of old
Ne'er knew: a vanity that has beset
The world, and made more slaves than Mahomet:
That has condemned us to the servile yoke
Of slavery, and made us slaves to smoke.
But stay! why tax I thus our modern times,
For new-born follies and for new-born crimes?
Are we sole guilty, and the first age free?
No: they were smoked and slaved as well as we.
What 's sweet-lipt honour's blast but smoke? What 's treasure,
But very smoke, and what 's more smoke than pleasure?"

And in this strain he goes on to the end of the chapter. The following quaint thought is quoted by Brand from an old collection of epigrams. It is entitled 'A Tobacconist,' a term which formerly described one who used as well as one who sold tobacco.

"All dainty meats I do defy
Which feed men fat as swine;
He is a frugal man indeed
That on a leaf can dine.

He needs no napkin for his hands
His fingers' ends to wipe,
That keeps his kitchen in a box,
And roast meat in a pipe."

We must conclude our illustrations with one more passage, quoted also by Brand, from an imitation of Young by Hawkins Browne, Esq.

"Critics avaunt, tobacco is my theme;
Tremble like hornets at the blasting steam.
And you, court insects, flutter not too near
Its light, nor buzz within its scorching sphere.
Pollio, with flame like thine, my verse inspire,
So shall the Muse from smoke elicit fire.
Coxcombs prefer the tickling sting of snuff;
Yet all their claim to wisdom is—a puff.
Lord Fopling smokes not—for his teeth afraid:
Sir Tawdry smokes not—for he wears brocade.
Ladies, when pipes are brought, affect to swoon;
They love no smoke except the smoke of town;
But courtiers hate the puffing tribe—no matter,
Strange if they love the breath that cannot flatter.
Its foes but show their ignorance; can he
That scorns the leaf of knowledge, love the tree?
Yet crowds remain who still its worth proclaim,
For some for pleasure smoke, and some for fame;
Fame, of our actions universal spring,
For which we drink, eat, sleep, smoke—ev'ry thing."

NOTES OF A JOURNEY TO THE MINES OF CORNWALL AND WALES.

A Correspondent (W. H. B.) has furnished us with a Journal kept by him while on a tour to inspect the mines and smelting-works of Cornwall and Wales, from which we make the following extracts. The articles on the 'Mineral Kingdom' in former Numbers of the 'Penny Magazine' will have prepared many of its readers to be interested in the following passages, which sometimes refer to places and processes more fully described in those articles.

Breaking Iron Ore.—Eight miles from Falmouth are the Tresevean and Consols copper-mines; both are of great extent, the latter occupying an area of two miles and employing 2200 persons. The surrounding country presents to view one vast scene of works, with a multitude of houses or cottages scattered in every direction, and denoting a considerable population. We occupied some hours in observing the mode of raising the ore, and also the manner in which it is broken or crushed: the process is extremely simple. The larger pieces or blocks are broken with hammers by women, called "Bal Maidens," many of whom are very good-looking; but they seemed to require warmer clothing *, and must find their occupation painful and tiresome; they were all without stays. When thus reduced to a small size, the ore is crushed by mills, and then smelted.

Submarine Mines.—Near the Land's End is a remarkable mine, now no longer worked, at the base of the cliffs, and extending some way under the sea. To show the fearless intrepidity of the miners, I need only state that they blasted the rock upwards till they reached within two feet of the bed of the ocean, and this they ascertained by boring through the rock with an auger. The fracas caused by the stones overhead when set in motion by the waves, was represented as quite astounding. The Levant Mine, not very far from this, was equally singular in respect of situation, the cliffs rising from 150 to 250 feet, and being so nearly perpendicular, that ladders are necessary to enable the miners to descend to the shaft. When the wind is high they are compelled to use great caution, for where there are no ladders the path is bad and slippery: it was a curious sight to observe the workmen emerge from the entrance, as they reminded us strongly of so many ants quitting their dark abodes. This, as well as the other mines in the neighbourhood, contains copper, iron, tin, &c. Its entire depth is stated at 170 fathoms, and it extends directly under the sea. As my fellow-travellers were otherwise engaged, I entered it alone, but there was little to excite attention, except the bursting of a boiler belonging to the steam-engine used for pumping, &c., previous to my descent, and a great rushing in of salt water while I was below. The quantity of water that continually flowed in by numerous crevices surprised me, as I could not conceive how an engine of no great power could keep the mine dry enough to admit of the people working. The way in which the guides here, and on this coast generally, approach the edge of a cliff, evinces great nerve, for they will stand on the margin of a formidable precipice, and from it regard the scene around with as much *sang froid* as if the height were only a few feet instead of being perhaps 200. But occasionally they pay by a dreadful death the penalty of their recklessness; and not unfrequently five or six are killed within the year.

Descending a Shaft.—Twelve miles from the above place is Huel Vor, a tin-mine, into which we descended 1200 feet; an affair of no trivial exertion, as the iron ladders were quite vertical, and their steps a foot asunder. The machinery for clearing the mine from water was in the same shaft, which rendered it necessary to use caution lest our dresses should be caught by the enormous rods, as an accident of this kind would have consigned one, a mangled corpse, to the bottom of the abyss. It is to be hoped that some plan will eventually be adopted to enable the miners to ascend and descend by a machine, instead of being compelled to undergo the violent labour caused by the present mode; for after six hours of hard work below, the additional exercise of an hour's climbing by such a series of upright ladders, as it were, up a large chimney, is so exhausting, that the health of the people is injured, and the term of their existence shortened. The rushing of water and noise of the machinery, which it may be easily conceived is on a stupendous scale when I state that it raises water from a depth of 1250 feet, together with the reverberation of the reports caused by the blasting of the rock, had an extremely awful effect.

Superstitions of Miners.—Some of the superstitions of miners are curious, and it would be amusing to discover their origin. In Cornwall, for instance, no person is permitted to whistle while beneath the surface,

* Our correspondent's visit was in November.

though he may sing as much as he pleases: such is likewise the case in Mexico. In the former also a miner never says of one being precipitated down a shaft, &c., that he was *killed*, the expression *he fell away* being invariably substituted; and in Worcestershire, when an accident attended with death occurs, not a person employed in the pit or mine will work there until the body has been consigned to the grave.

Dangers in Smelting.—At Nant y Glo (Wales) we had an opportunity of witnessing the effect produced by the numerous fires at night; and certainly the pitchy darkness was such, that we could not have chosen a more fitting time. The strong variations of light and shade, as the bright flames from the furnaces rose and sunk, with the intense glare of the fluid metal, produced an appearance which might almost have justified a spectator in fancying himself in Pandemonium. It is in vain to attempt to convey even the remotest idea of this cyclopean scene by description. A large quantity of the iron ran into a mould, the bottom of which happened to be wet; and the moisture being instantly converted into steam, an explosion took place, by which the metal was thrown nearly to the roof of the lofty building, from whence it descended in a fiery shower, somewhat alarming to those unaccustomed to this kind of firework. But the most singular circumstance that presented itself to our notice was the fused iron flowing *under water*, which thus occurred:—To each furnace there are two orifices, one of which is kept closed until the metal is sufficiently fused to be run out into the moulds, the other is for the pipe or nozzle of the bellows. Upon the latter a small stream of water is allowed to fall to prevent it from becoming red hot, and the waste forms a pool. Now, in consequence of the man appointed to *tap* the furnace at the proper time having neglected to do so, the iron boiled up and run out from behind, beneath the water, which I considered so curious a phenomenon that I called my companions to see it. Luckily a workman observed it also, and desired us to quit the spot immediately, which we did without waiting to inquire the reason. It seems the same circumstance had happened not long before, when a violent ebullition was the consequence, and one man was entirely deprived of his sight by the heated water being thrown with force into his face.

Another way of Descending a Shaft.—There was nothing particularly worth noticing in the appearance of the mine at Merthyr Tydvil; but we descended one shaft in a way I had not previously seen, and it may perhaps be as well to describe it. Let the reader imagine two large iron tubs secured to a strong chain, in the manner of draw-buckets, one being drawn up as the other descends, and worked in the following ingenious though simple mode. On each tub is a frame for a cart to rest upon, and we will now suppose that it is required to raise up a load of coals; to accomplish this a cock is turned, and the upper tub becomes rapidly filled with water, which, by counterbalancing the weight below, descends, and of course the coals are drawn up. As soon as the tub comes in contact with the bottom of the shaft a valve opens which lets out the water, and the empty cart sent down is replaced by a full one. In this way we descended thirty-five yards in twenty-one seconds; and it was our intention to have returned similarly, but the chain happening to break, the whole apparatus came down with a tremendous crash, and greatly damaged the walls of the shaft. Fortunately no person was in the way at the moment.

Effects of Copper Works near Swansea.—The fumes of the copper blight vegetation, cover the glass of the windows with an efflorescence which prevents one from seeing through it, and impart a melancholy and forbidding aspect to the country; and this is greatly increased by the dense volumes of smoke which rise in every direction. Mr. Vivian (the proprietor of very extensive works in this district) has judiciously erected his house beyond the influence of these fumes, as it is four miles from the works, which are concealed by intervening eminences.

Inclination of Buildings in a Mining District.—Our correspondent having concluded his researches in Wales, crossed the Bristol Channel, and proceeded to Wolverhampton. The account then proceeds:—A week spent at Ettingshall Park afforded me an opportunity of exploring the works and mines of coal and iron in this neighbourhood. I observed nothing very different from what I had previously seen, except that the houses and stacks, or chimneys, of the steam-engines used for clearing mines of water or raising ore, often sloped in a manner that could hardly fail to cause apprehension in a spectator, who, from not being aware of the cause, naturally imagines it impossible that they can long maintain such an apparently unstable position. The reason of the inclination so frequently observed is the sinking in of the ground owing to the excavations made in searching for coal, &c. These being carried under, the buildings sometimes gradually fall in; and I was informed that a family, on rising one morning, found that their habitation had sunk considerably at one end, though it still remained uninjured.

Our correspondent, in conclusion, speaks highly of the amusement and instruction he received during his journey, and warmly recommends a similar excursion to those who have the requisite means and leisure.

The New England States.—They do us the honour to call themselves purely English in their origin; they alone, of the whole population of the United States, undoubtedly were so; and in the abundant witness which their whole character, country, and institutions bear to that fact, I feel an additional reason to be proud of England,—of Old England, for these are her children,—this race of men, as a race incomparably superior to the other inhabitants of this country. In conversing with New Englandmen, in spite of any passing, temporary bitterness, any political difference, or painful reference to past times of enmity, I have always been struck with the admiring, and, in some measure, tender feeling with which England, as the mother-country, was named. Nor is it possible to travel through the New England states and not perceive, indeed, a spirit (however modified by different circumstances and institutions) yet most truly English in its origin. The exterior of the houses—their extreme neatness and cleanliness,—the careful cultivation of the land,—the tasteful and ornamental arrangement of the ground immediately surrounding the dwellings, that most English of all manifestations,—above all, the church spires pointing towards heaven, from the bosom of every village,—recalled most forcibly to my mind my own England, and presented images of order, of industry, of taste, and religious feeling, nowhere so exhibited in any other part of the Union. I visited Boston several times, and mixed in society there, the tone of which appeared to me far higher than that of any I found elsewhere. A general degree of cultivation exists among its members, which renders their intercourse desirable and delightful. Nor is this superior degree of education confined to Boston; the zeal and the judgment with which it is being propagated throughout that part of the country is a noble national characteristic. A small circumstance is a good illustration of the advance which knowledge has made in these states. Travelling by land from New Haven to Boston, at one of the very smallest places where we stopped to change horses, I got out of the carriage to reconnoitre our surroundings. The town (if town it could be called) did not appear to contain much more than fifty houses: amongst the most prominent of these, however, was a bookseller's shop. The first volumes I took up on the counter were Spurzheim's volume on education, and Dr. Abercrombie's works on the intellectual and moral faculties.—*Mrs. Butler's Journal.*

*** The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

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THE HYRAX, OR DAMAN.



[Hyrax.]

PLACED in the *pachydermatous* order,—an order which comprehends the hippopotamus, the elephant, the horse, and the hog,— the hyrax, or daman, presents a singular contrast, both as respects its appearance and its habits, to the huge and massive animals with which it is associated. So marked indeed is its affinity to certain of the *rodentia*, that Pallas placed it among the *cavies*, under the name of *cavia Capensis*, and Buffon termed it "*la marmotte du Cap.*" Following the received opinion, Hermann, though he constituted the hyrax as an independent genus, still retained it among the *rodentia*, nor was its true situation in the animal world discovered until Cuvier pointed it out, proving from the characters of the dentition, the skeleton, and the internal anatomy, its strict alliance to the *pachydermata*, while at the same time it is to be regarded as leading from this order to that with which it was formerly associated. The hyrax is undoubtedly the coney of Scripture; or rather, perhaps we should say, one of the species is the animal thus alluded to, for there appear to be two if not three distinct species, of which one inhabits the rocky parts of Syria and North Africa and the two districts adjacent to the Cape of Good Hope. Of these latter, the *hyrax arboreus*, or *boom-dos* of the colonists, differs from its congeners not only in markings, but in the circumstance of its preferring hollow trees for its abode. Whether the Syrian hyrax and the Cape hyrax be truly distinct, admits of a question. At all events they agree in habits, manners, and general appearance, so that what is spoken of one relates to the other also. The hyrax is called *klip-dos*, by the colonists of the Cape. The localities in which it is found are exclusively the rocky and mountain districts, the fissures and caves of which afford it an asylum. It abounds on the sides of Table Mountain, where it may be seen skipping near its burrow's mouth, or cropping the herbage; on the least alarm, however, it instantly retreats to its strong hold, whence it cannot be dislodged without the greatest difficulty. So seldom, indeed, is the hyrax captured, that its appearance in Europe is very rare,—while animals much more scarce in the countries where it abounds are of common occurrence in our menageries. Quick, watchful, and active as the hyrax is, it is frequently captured by the ferocious animals which lurk around its abode, and still more frequently by the larger birds of prey, which pounce upon it before it is aware of their approach. The eagle, whose nest is on the inaccessible pinnacle of the rock, at the base of which the unsuspicious hyrax is frolicking, marks her victim as she sails around her eyrie, and with a swoop rapid as the fall of an aerolite, lays it prostrate, grasps it in her talons, and mounts with it to her young.

We have seen more than one example of the hyrax

of the Cape in captivity. Gentle and inoffensive, it exhibited a very limited share of intelligence, but was playful, and not without a demonstration of attachment to those with whom it was familiar. Its actions, and indeed its general aspect, much resembled those of a rabbit, with which animal it agrees in size. The Syrian hyrax we have never seen; but Cuvier says that he can discover no difference between it and its South African relative, and evidently considers them as identical, which is the more probable, as the hyrax from Abyssinia, said to be the same as the Syrian, and which we have seen, is not to be distinguished. In the general contour of its body the hyrax is stout and thickly set. The limbs are short, the toes on each foot are four before and three behind, all being tipped with little slender hoofs, except the inner toe on each hind foot, which is armed with a long crooked nail. The head is large and thick, the eyes of a moderate size, the ears short and rounded; the teeth consist of molars and incisors, the former bearing a close resemblance in miniature to those of the Rhinoceros. The incisors are two above and four below; the two in the upper jaw are strong, elongated, and pointed, having a great resemblance to *canines;* their situation being lateral, a wide interval separating between them. The incisors of the lower jaw are in pairs, separated by a small interval; they are flat, with indented edges. It has no tail. The general colour of the fur, which is soft and thick, is a dark greyish brown, becoming paler beneath. Our sketch is from nature.

BATHING AND SWIMMING.

Although the external use of water for the purposes of health and cleanliness must have been common in all ages and nations, the practice of bathing, as a luxury or as a remedy, appears to have been entirely confined to the polished nations of Europe and Asia. In the early records of antiquity, mention indeed is made of bathing, either as a religious ceremony or as the means of fortifying the body against the hardships and fatigues of war; but with these views the cold bath alone, to which we shall confine our attention, must in the first instance have been employed. The practice of bathing was strictly enjoined under the Mosaic laws. On various occasions it is mentioned in the Scriptures as a remedy for certain diseases*. In the capital of the Roman Empire there were many public baths, some of which were capable of containing a great number of persons. These establishments were regulated by the legislature, as they were among the Greeks and Spartans. The latter in particular did not deem it expedient to intrust bathing to the caprice of individuals, but considered it as a public institution, which was governed and arranged according to positive laws. We learn also from sacred history that, among the Jews, at a much earlier period, persons under certain circumstances were pronounced unclean, and consequently unfit to hold any intercourse or communion with others till they had performed the appointed ablutions. The Greeks, according to their own historians, learnt the practice of bathing from the Egyptians, as the Romans learnt it from the Greeks. With those celebrated nations public and private baths formed an important branch of useful and ornamental architecture: many opulent individuals courted the favour of the people by lavishing their treasures in the establishment and decoration of public baths, and to this day are frequently discovered the valuable remains of these national edifices. Among the Romans, the baths were in time converted into regular and luxurious dwellings, in which the sons of the patricians, or noblemen, and of the wealthy, were educated.

* 2 Kings v. 12.

The change which the contact of cold water produces on the body naturally leads us to inquire into the physical nature and properties of the cold bath. But as this subject has been fully considered in the article Bathing in the 'Penny Cyclopædia' we shall touch but lightly upon it here. The lightest water is at least 800 times heavier than air, from which it has been concluded that the former presses upon the human body with a force proportionably great. If, therefore, the column of air which presses upon our body with a force equal to 39,000 lbs. could be converted into water, the whole weight of that pressure would amount to 31,200,000 lbs. Yet, as our health is affected by a difference in the pressure of the air, occasionally varying from 3000 to 4000 lbs., it may be easily understood that the human body is not calculated to sustain, for any length of time, the great pressure of water. For this reason, the most experienced negro-divers dare not venture beyond a certain depth of the sea, well-knowing it would be impossible to rise up against the additional weight of water incumbent on their bodies.

Sixty-five degrees of Fahrenheit is the temperature which is most generally employed for the cold bath in this country. Now, when a person in the ordinary state of health is immersed in a cold bath, he first experiences a general sensation of cold, which is almost immediately succeeded by a general sensation of warmth, the latter rapidly increasing, so as to cause the surrounding water to feel of an agreeable temperature. This warm glow, or increase of animal heat, which so generally follows the sensation of cold experienced on the sudden application of the cold bath, is to be ascribed to the reaction of the system, which enables it to resist an external impression by which it might be injured: this reaction is in proportion to the intensity of the cause by which it is excited, and to the vigour of the vital powers, of which it constitutes a peculiar effort. It is this reaction of the system which enables the body to derive advantage from the application of the cold bath; and where the reaction does not take place, or takes place only in a small degree, the cold bath has been injudiciously employed; hence, where the system has been debilitated by long-continued exertion or disease, the cold bath should be avoided; and when, after the use of the cold bath, a person feels heavy, inactive, or chilly, or finds himself affected with head-ache, or tightness across the chest, it is evident it does not agree with him, or that he has continued it for too long a time.

From what has been premised, it appears that the use of the cold bath is attended with the following effects:—a sudden and powerful shock is given to the body on the first immersion;—a sudden abstraction of heat takes place from the surface, and a sudden increase of blood to the interior parts;—a reaction of the system counteracts the shock and restores the diminished temperature. In its general and primary effects, therefore, the cold bath, judiciously used, acts as a powerful stimulus to the whole system by rousing the vital powers to exertion, and to this effect its advantages as a remedy are chiefly to be ascribed.

The best method of cold-bathing is in the sea or a river. While in the water, we should not remain inactive, but move about in order to promote the circulation of the blood from the centre of the body to the extremities. After immersion, the whole body ought to be wiped as quickly as possible with a dry and somewhat rough cloth.

Dr. Franklin is of opinion that it is never too late to learn to swim, and in this opinion he is amply borne out by the specific gravity of the different parts of the human body. The legs, arms, and head, being solid parts, are specifically somewhat heavier than fresh water; yet the trunk, particularly the upper part, from

its hollowness, is so much lighter than water, as that the whole of the body, taken together, is too light to sink wholly under the water, but some part will remain above until the lungs become filled with water. This happens from drawing water into them instead of air, when a person in his fright attempts breathing while the mouth and nostrils are submerged. The legs and arms are specifically lighter than salt water, and will be supported by it; so that a human body would not sink in salt water, even though the lungs were filled with water, if it were not for the greater specific gravity of the head; consequently a person throwing himself upon his back and extending his arms may easily lie so as to keep his mouth and nostrils free for breathing, and, by a slight motion of his hands, may prevent his body turning, if he should perceive any tendency towards it. But in fresh water, if a man throws himself upon his back near the surface, he cannot long continue in that situation but by a proper action of his hands on the water; if he uses no such action, the legs and the lower part of the body will gradually sink till he comes into an upright position, in which he will continue suspended, the hollow of the chest keeping the head uppermost. But if, in this erect position, the head is kept upright above the shoulders, as when we stand on the ground, the immersion will, by the weight of that part of the head that is out of the water, reach above the mouth and nostrils, perhaps a little above the eyes, so that no one can long remain suspended in water with his head in that position. But with the body suspended in this manner and upright, if the head be thrown quite back, so that the face looks upwards, all the back part of the head will then be under water, and its weight being in a great measure supported by it, the face will remain above water quite free for breathing. It will rise an inch higher at every inspiration and sink as much at every expiration, but never so low as that the water may come over the mouth. When a person who is unacquainted with swimming accidentally falls into the water, if he could summon up sufficient presence of mind to avoid struggling and plunging, and to let the body take this natural position, he might thus remain for a long time safe from drowning,—till, perhaps, assistance might arrive. For, as regards the clothes, their additional weight, while immersed, is very inconsiderable, the water supporting it, although they are very heavy indeed when taken out of the water. But it is not advisable for any one to depend on having this presence of mind on such an occasion, and he should fairly learn to swim. He would then, on many occasions, be the safer for having that skill, and on many more the happier, as being more free from painful apprehensions of danger, to say nothing of the enjoyment in so delightful and wholesome an exercise. Independently of its being an useful exercise, it has the additional advantage of a cold bath. The motion and muscular exertion which it requires increase its utility: some rules and precautions, however, must be attended to. Some of these have already been stated, and it is only necessary further to remark, that no one who prefers a plunge should enter the water with the feet, but with the head foremost;—the body should neither be too warm nor too cold;—dangerous rivers and ponds should be avoided for this exercise, nor ought the water to be entered before the rays of the sun have in some degree warmed and rendered it more temperate.

One very great danger to bathers proceeds from cramp. When attacked with this spasmodic sensation, the means of obtaining relief are, to give the affected limb a few sudden, vigorous, and violent shocks, out of the water if possible; and, if this does not succeed, the swimmer must turn on his back and continue these exertions. Friction, or rubbing the limbs, before going into the water, with a coarse towel, is a preventive of cramp. It is often observed that the best swimmers are frequently drowned; and it is true that they often are lost in their efforts to save those who cannot swim. In order that a swimmer may not become a victim to his humane efforts, he must guard against approaching the drowning person in front that he may not be grappled by him, for a drowning person holds with convulsive force. He ought to seize him from behind, and let him loose immediately if he turns upon him. If the space to be passed be great, he should seize him by the foot and drag him, turning him on his back. If the drowning person has seized the swimmer, there is no other resource than his dropping to the bottom and there to wrestle and disengage himself. The drowning man endeavours to keep the surface, and instinctively quits his hold when drawing under water.

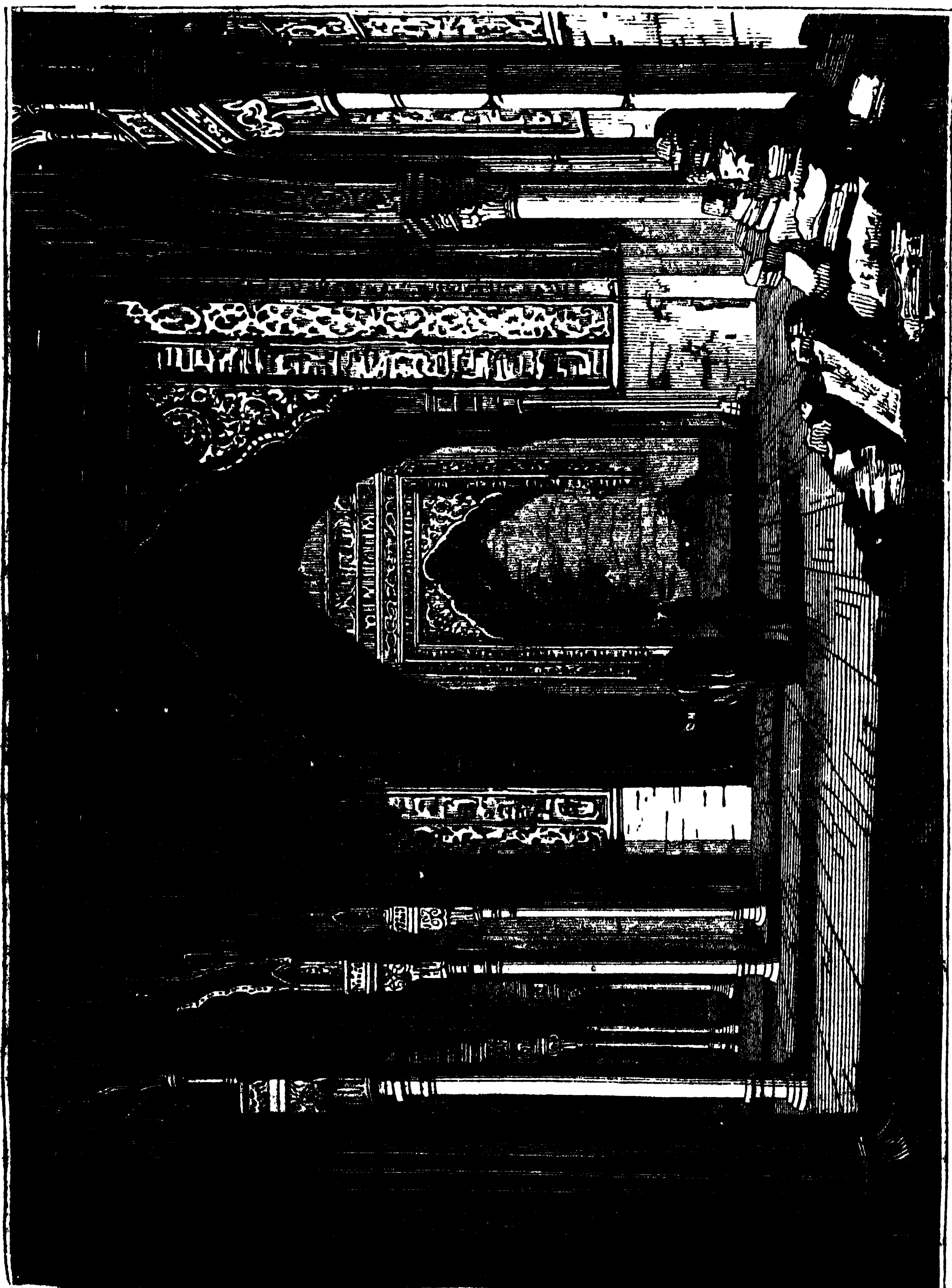
It is no less a subject of remark that, to whatever excellence men may attain in swimming, or if it be natural to them to swim, that almost all persons are drowned who fall into the water if they are not rescued by others, or if they have not previously learnt to swim. Terror is the obvious cause of this. We have already shown that the human body, on physical principles, must float if not prevented by our own exertions; and that a man lying perfectly quiet on his back, with his arms extended, in salt water, will float with his mouth and nostrils above the surface free for respiration; and he can equally do the same in fresh water by a slight motion of his hands. If, therefore, a person who finds himself immersed in the water and cannot swim would endeavour to become tranquil and quiescent, instead of being impelled by terror to make use of exertions calculated to exhaust and drown him, he would be safe. The suddenness and force of the fall in the water will at first sink him, but immediately afterwards he rises to the surface, and generally has then an unfortunate propensity to look down, and in a manner to embrace the water,—or he keeps throwing his arms above the water, as if to catch at something, by which means he loses all the buoyancy of his arms, which are one-tenth of the whole body. Individuals thus circumstanced should, by every means, keep themselves still, in an upright standing position, with the head thrown back, reclining on the surface, and they will easily float with the face entirely above the water. The only difficulty they will find will be to preserve the due balance of the body, which, however, may be effected by placing one leg before the other, as if in the act of beginning to walk, and by extending the arms laterally *under* the surface of the water, always keeping the head resting backwards on the water.

THE ALHAMBRA.

The city of Granada, in Andalusia, the most southern province of Spain, was built in the tenth century by the Moors; and in 1235, after having previously belonged to the dominions of the kingdom of Cordova, it became the capital of a new empire. It stands under the shelter of the Sierra Nevada, at the extremity of a plain which is described by the Arabian writers as having been in their time a terrestrial paradise. It was watered by rivers and brooks, and in every direction appeared villages and gardens, adorned by elegant buildings and the most beautiful trees and plants. Of the city itself they say language could with difficulty describe how delightful it was rendered by the softness of the air, the mildness of the climate, the bridges over the river, the splendour of the temples, and the convenience of the market-places. There was a garden attached to every house, planted with orange, lemon, citron, laurel, myrtle, and other odoriferous trees and plants, whose fragrance was diffused through the air, and

promoted the health of the inhabitants. All the houses were supplied with running water, and in every street, through the munificence of successive sovereigns, there were copious fountains for the public convenience, and for the performance of religious ablutions. In short, it is added, whatever could tend to promote convenience and comfort was to be found in Granada. But Granada was not only noted for its pleasantness, its comforts, its abundance, and the glories of its architecture, but as the principal seat of Arabian learning, art, and science. Its library was highly celebrated, and the names and works are on record of 120 persons whose literary talents gave dignity and reputation to the university of Granada.

This was the noble city where the Moors of Spain made their last stand for empire, or rather for a continued existence in the country which long possession had endeared to them as their own. The rest of their large possessions had been torn piecemeal from their grasp, and Granada, the city of their love and pride, alone remained. They held it out for a year against Ferdinand and Isabella, but were compelled by their privations to yield up the town in 1492. The inhabitants obtained favourable conditions in the first instance, and were allowed to remain in possession of their property and dwellings. But some of the most important stipulations being afterwards infringed by the Christians, who also began to coerce them on the



[Hall of Justice, Alhambra, Granada.]

score of their religion, they in the end found it necessary to remove with their families and portable property to Fez in Africa. To this day Granada has been to the Moors the object of their most cherished recollections, and most intense desires; and every Friday they have been accustomed to offer up their supplications to Allah for the recovery of that blessed city. The descendants of the last Sultan of Granada were absolute paupers in the town of Fez little more than a century after the fall of their ancestors' kingdom.

Although the glory and prosperity of Granada may be said to have departed with its old inhabitants, yet happily it still retains in pretty good preservation what formed its chief ornament in the time of the Moors. This is the Alhambra, the royal *alcazar*, or fortress and palace, which was founded by Muhammad Abû Abdillâh Ben Nasr, the second sovereign of Granada, who defrayed the expense of the works by a tribute imposed upon his conquered subjects. He superintended the building in person, and when it was completed he made it the royal residence. He also fortified the mountain on which it stands, and, during the whole of his reign, devoted an ample portion of his revenues to its completion and improvement. The immediate successors of this prince also took delight in embellishing and making additions to the fabric. Since the conquest of Granada by the Christians, the Alhambra has undergone some alterations. It was for a time occasionally inhabited by the kings of Spain. Charles V. probably intended to make it his constant residence: he caused a magnificent palace to be commenced within the walls, but owing to his wars and frequent absences from Spain, or, as some accounts say, to repeated shocks of earthquakes, a splendid suite of apartments in the Spanish style is all that resulted from an alleged intention to eclipse the palace of the Moslem kings. With all its grandeur and architectural merit, Washington Irving regards the structure of Charles as "an arrogant intrusion;" and Murphy, in his 'History of the Mahometan Empire in Spain,' makes an interesting comparison between its condition and that of the Moorish palace. He says that like the rest of the Alhambra, it is falling rapidly to decay through neglect. "At present the walls are defaced, the paintings faded, the wood-work is decayed, and festoons of cobwebs are seen hanging from the ceilings. In the works of the Arabs, on the contrary, the walls remain unaltered, except by the injuries inflicted by the hand of man. The colour of the paintings, in which there is no mixture of oil, on removing the particles of dust, appear to have preserved their brightness. The beams and wood-work of the ceilings present no signs of decay; and spiders, flies, and all other insects shun their apartments at every season. The art of rendering timber and paints durable, and of making porcelain mosaics, arabesques, and other ornaments, began and ended in western Europe with the Spanish Arabs."

The palace has had no royal residents since the beginning of the last century, when Philip V. was there for a short time with his queen. The place was however still kept up with some state as a garrison. The governor had a jurisdiction independent of that of the captain-general of Granada, extending into the suburbs of the city. He resided in an apartment in the front of the palace. The French, when they left the place, rendered the fortifications scarcely tenable, by blowing up several towers of the outer wall; and since then the governor himself has resided in the city, and the fortress is merely occupied by a few invalid soldiers, whose principal duty is to guard some of the outer towers which are occasionally used as a state prison.

When the court permanently ceased to regard the Alhambra as a royal residence, "its beautiful walls became desolate, and some of them fell to ruin; the gardens were destroyed, and the fountains ceased to play*." While Granada was in the hands of the French, the Alhambra was garrisoned by their troops, and their commander occasionally inhabited the palace. The French, much to their credit, did what they could to put the building in repair, and arrest the further progress of decay. "The roofs were repaired, the saloons and galleries protected from the weather, the gardens cultivated, the water-courses restored, the fountains once more made to throw up their sparkling showers; and Spain may thank her invaders for having preserved to her the most beautiful and interesting of her historical monuments†."

We have hitherto spoken chiefly of the Alhambra as a palace; but it is to be understood that in the extensive sense the name applies to a fortress, a sort of city in itself, and was indeed considered one of the four quarters into which the city of Granada was divided, and it is said to have afforded accommodation within its walls for a garrison of 40,000 men. This may be doubted; but the fortress is still a little town containing several streets of houses, with a parish church and a Franciscan convent. The palace, situated upon the northern brow of a steep hill, overlooks the city of Granada on one side, and on the other commands an extensive view over a most charming country. All the wonders of this palace lie within its walls. Externally, according to the account of Swinburne, it appears as a large mass of irregular buildings, all huddled together without any apparent intention of forming *one* habitation. The walls are entirely unornamented, of gravel and pebbles coarsely over-daubed with plaster. The result of this is, in the end, rather satisfactory to the visiter than otherwise, as it enhances, by contrast, the effect which the elegance and splendor of the interior is calculated to produce. We cannot trace the successive courts and apartments through which the visiter passes as he penetrates to the interior, or attempt to enumerate their separate claims to notice. Something of this sort has already been done in the article ALHAMBRA in the 'Penny Cyclopædia,' where there are also woodcuts of one of the gates and the principal hall. We shall therefore limit ourselves to a general statement, mainly derived from 'The History of the Mahometan Empire,' which serves as an introduction to Murphy's splendid work on the 'Arabian Antiquities of Spain.'

The general arrangement of the buildings which compose the palace is exceedingly simple. The courts, for instance, which in our mansions are dull and uninteresting, are here so planned as to seem a continuation of the series of apartments; and as the whole is on the same level throughout, the prospect through the building, in its perfect state, must have seemed like a scene of enchantment or a dream; halls and galleries, porticoes and columns, arches, mosaics, with plants and flowers of various hues, being seen in various extensive views through the haze arising from the spray of the fountains. In every part of the palace its inmates had water in abundance, with a perfect command over it; making it high or low, visible or invisible, at pleasure. In some instances it spouted in the air, dispersing the floating miasmata, and tempering the aridity of the atmosphere; and in others spreading out in the midst of the court in a large oblong sheet, reflecting the surrounding objects and the serene blue sky.

In every apartment two currents of air were continually in motion, apertures being formed near the ceiling to discharge the warm and unwholesome air which the pure inferior current forced upwards. Also by means of tubes of baked earth placed in the walls, warmth was diffused from subterraneous furnaces, not

* Irving. † Ibid.

only through the whole range of the baths, but to all the contiguous upper apartments where warmth was required. The doors were large, but rather sparingly introduced; and, except on the side towards the precipice, where the prospect is very grand, the windows are so placed as to confine the view to the interior of the palace. The object of this is declared in an inscription in one of the apartments, which says:—"My windows admit the light, but exclude the view of external objects, lest the beauties of nature should divert your attention from the beauties of my work."

In this "mansion that in beauty surpasses all others—the delightful mansion," as another inscription describes it, the elaborate arabesques and mosaics, which cover the ceiling, walls, and floor, give a consequence and interest even to the smallest apartment. Instead of being papered or wainscoted, the walls are pervaded with that peculiar ornament which, from the Arabs, has been denominated "arabesque," and which had been cast in moulds and afterwards joined together, although no separation appears. The receding ornaments are illuminated in just gradation with leaf-gold, pink, light blue, and dusky purple: the first colour is the nearest, the last the most distant from the eye; but the general surface is white. The domes and arcades are also covered with ornamented casts, which are almost as light as wood and as durable as marble. The accuracy with which these most elaborate and extensive arabesques have been fitted into each other, the almost endless multiplication of geometrical forms produced by their combination, and, perhaps more than all, the perfect state of the most delicate parts of the workmanship, and even of the finest wood-work, suffice to demonstrate that arts of ornamental architecture have existed of which we know little and can but imperfectly imitate.

The lower part of the walls, to the height of about four feet, is covered with porcelain mosaics of various figures and colours: and it appears from a few remaining fragments, that the floors and walls of some of the apartments were also covered with similar mosaics. "The Arabs," observes Murphy, "took great pleasure in these decorations, a luxury unknown to their Gothic contemporaries, who skirted their halls with mats, and covered their floors with bulrushes."

THE 'PANCHA TANTRA.'

This is the name of the most ancient collection of Indian fables, which has formed the groundwork of the various modifications in which the fables of Pilpay—more properly Bidpai—have been presented to the world. There is indeed, even in India, an epitome or modification of the original collection, substantially identical with it, but with some additional stories, and with occasional omissions of those which are to be found in the 'Pancha Tantra:' this is called the 'Hitopadesa,' and has been translated into English by Sir William Jones and Sir Charles Wilkins. It is to be regretted, perhaps, that the original work was not rather selected for translation, as the general resemblance of the two will now make it seem unnecessary that, when we have one, the other should be translated. There is also a large Indian collection of stories, made in the eleventh century, called 'Vrihat Katha,' which includes many of those in the 'Pancha Tantra.' Then again, it has been translated, with alterations and additions, into Arabic, under the title of 'Kalila and Dimna.' From these two sources,—the original Sanscrit and the Arabic translation,—the tales have passed into various languages of Europe and the East, generally under the name of 'The Fables of Pilpay,' which is a corruption of Bidpai, the name given to the narrator of the stories in the Arabic version. We have ourselves four versions, one under the title of 'The Fables of Pilpay,' by Harris, from the Persian version after the Arabic; 'The Translations of the Hitopadesa,' by Jones and Wilkins; and a translation from the Arabic version by Mr. Knatchbull. As already intimated, we have no direct translation of the 'Pancha Tantra;' but the want has been in a considerable degree supplied by Mr. Horace Hayman Wilson, who, in the first volume of the 'Transactions of the Royal Asiatic Society,' has given a most elaborate analysis of the work, pointing out, as he proceeds, the differences between the original work and the various collections which have been based on it or derived from it. To this analysis we are indebted for the materials of the following account of the 'Pancha Tantra,' referring those who wish for further information concerning the history of the collection to the article 'Bidpai,' in the 'Penny Cyclopædia.'

The 'Pancha Tantra' is so called from being divided into five tantras, or sections, and is referred to under that name in the 'Hitopadesa.' It is better known in common speech by the denomination of Panchopakhyana, which may be rendered the 'Five [collections of] Stories;' and under this appellation the work may be met with in most parts of India.

The frame-work of the series of stories is this:—A certain accomplished king, finding his three sons very averse to study, lamented his hard fate to his councillors, one of whom advised him to entrust their education to a learned Brahmin named Vishnu Sarma. This person being sent for, willingly undertook the duty. He took the princes to his own house, and there, for their instruction, he composed these five chapters. They are respectively entitled,—1. The Dissension of Friends; 2. The Acquisition of Friends; 3. Inveterate Enmity; 4. Loss of Advantage; 5. Inconsiderateness. By reading these, the princes were in six months highly accomplished; and the five tantras became famous throughout the world.

As usual in Oriental collections of tales, 'The Arabian Nights' Entertainments,' for instance, the stories run into each other, so that each section is one tale containing several other tales. The fables in the first chapter are mainly connected by the devices of two jackalls to induce the lion to destroy a bull that stood high in his esteem. One of those jackalls is called Kalila, and the other Dimna, in the Arabic version, in which these names give the title to the book. In his account of this chapter Mr. Wilson gives no translation which is suited to our purpose; we therefore turn to the Arabic 'Kalila and Dimna,' as translated by Mr. Knatchbull, for a fable which he says is the same in the 'Pancha Tantra.' It is indeed one of those fables the Indian origin of which is at once apparent from intrinsic evidence.

"A number of monkeys, who lived on a mountain, were wishing, on a cold, windy, and rainy night, for a fire to warm themselves; at last they saw a glow-worm, and thinking that it was a spark of fire, they got together a quantity of wood and threw it upon it: not far off there was a bird upon a tree, which, observing what they were doing, cried out to them, and endeavoured to convince them of their error. This scene attracted the attention of a man who was passing by, who told the bird that it was wasting both its time and patience, and that no one thought of proving a sword upon a stubborn impenetrable stone, or of making a bow out of a piece of wood that would not bend. The bird, however, without attending to him, flew to the monkeys to prove to them that the glow-worm was not fire; but, in recompense for its pains, was seized by one of them, dashed upon the ground, and killed." This is certainly as good an apologue of its kind as one will readily meet with in any collection.

The second section, relating to the Acquisition of Friends, describes the process by which a warm friendship was formed between a crow, a rat, a tortoise, and an antelope, and the mutual services by which they became endeared to each other. This part, in all the different copies, seems to be more sentimental, controversial, and literary than any of the others. The beasts in Hindoo fables certainly eclipse those of western fabulists in their education and acquaintance with books. The principal distinction between the western and oriental fabulists, in their use of animals, seems to be that the actions of the animals in the latter are more natural than in the former, while their speech is much less so. In the Indian fables no erudition is considered unsuitable for any beast to utter.

The third section, on Inveterate Enmity, has its fables linked together by the account of a war between the crows and owls, occasioned by the successful interference of a crow in preventing the owl from being chosen king of the birds, and ending in the destruction of the owls by their more crafty adversaries. It contains one story which has been imitated by European writers; and the corresponding section in the 'Hitopadesa' contains a fable of an ass in a tiger's skin, analogous to that of the ass in a lion's skin in our own well-known fable. The same fable also occurs in the following section of the 'Pancha Tantra' itself. The fables which Mr. Wilson gives as specimens of this section, and the fables in the 'Hitopadesa' and in the Arabic version, which he points out as taken from 'Pancha Tantra,' are either too long or pointless, or otherwise unsuitable for our pages.

The fourth section relates to 'The loss of that which has been gained,' and inculcates that the acquisition of a desired good is often attended with less difficulty than the means of preserving it. The leading actors in this part are an old monkey and a tortoise, according to the Arabic version; but in the original, the latter is the *makara*, a fabulous aquatic animal, corresponding in form with the Capricorn of the Greek zodiac. This section contains one story which we may quote from Sir W. Jones's translation of the 'Hitopadesa,' where it is also found. It is a neat fable, illustrating, as we would say, the indiscretion of "throwing pearls before swine."

"On the banks of the Nermada, at the foot of a mountain, stands a large samula-tree, in the middle of which some birds had built their nests, and lived with pleasure for years. Once the sky, resembling an azure mantle, became obscured with thick clouds, and a heavy shower began to fall, when these birds saw a herd of monkeys running under the tree, trembling with the pain of cold. They were moved with compassion and said, 'Halloo! monkeys, we have made nests with herbs brought in our bills; why do you join your hands and feet together with such affliction? Why don't you invent something to protect you from the rain*?' The monkeys, hearing this, were displeased, and said among themselves,—'Oh, these birds who sit happily in the middle of their nests, secured from the wind, are deriding our exposed situation. Be it so; the shower must soon cease.' When the rain at last was over, the monkeys climbed up the trees, and broke all the nests on the branches, so that the birds' eggs were thrown to the ground." The moral of this is conveyed in the sentence, "Let a sensible man be admonished, but not a fool; for a fool, being admonished, is provoked and not benefited."

The fifth and last section is entitled 'Inconsiderateness.' As there is little that corresponds to it either in the 'Hitopadesa' or in the Arabic version, a very full account of it is given by Mr. Wilson. Vishnu Sarma begins with remarking, "That a man should never attempt a business which he has imperfectly seen or understood, transacted or investigated;" and with this for his general text, he proceeds to illustrate it by a series of stories concatenated in the usual way. It is a very interesting section, from the analogy between many of the stories and some that are perfectly familiar to ourselves. One of the stories closely resembles that of the dog, which in common story, and the ballad of 'Bath Gellert,' is slain by his enraged master on the unfounded suspicion that he had killed the child in the cradle, whereas in truth he had only killed a snake in the defence of that child. In the tale of the 'Pancha Tantra,' however, the place of the dog is occupied by the weasel, which is a pet of the Hindoos, among whom the dog has never been a domestic animal. Another story, which is told with considerable humour, relates how the ass brought himself into trouble by his musical pretensions; on which subject we have also a fable. One story has some resemblance to the story of the 'Three Wishes;' another contains the original idea of the troublesome old man who made Sinbad carry him upon his shoulders on his fifth voyage; and one other story of this section has been very closely imitated in the story of 'Alnaschar,' in the 'Arabian Nights' Entertainments.' As a specimen of this section we give the following capital fable, which in our judgment has not, in its point and dry humour, been exceeded by any western apologue.

"There were four Brahmins residing in the same village,—all intimate friends. Three were men of great acquirements, but destitute of common sense. The fourth was an intelligent fellow, but equally destitute of learning. As they were poor, they determined at one of their meetings to go to some country where learning was patronised, and where, they were satisfied, they should speedily be enriched by presents from the king. They accordingly set off; but when they had gone some way, the eldest cried out, 'It never occurred to me before that our fourth friend here is illiterate. He is a man of sense to be sure, but that will not entitle him to any rewards from the king; we shall have, therefore, to relinquish to him a part of our earnings, and it would be fairer, I think, for him to remain at home.' The second agreed in this opinion, but the third opposed it, saying, 'We have always been friends and companions from infancy, and let him, therefore, participate in the wealth we shall acquire.' This sentiment prevailed, and they all went on in harmony.

"As they passed through the forest, they saw the scattered bones of a dead lion. 'I have met,' said one, 'with an account of a method by which beings can be re-animated; what say you? shall we try the experiment, and employ the energies of science to restore life and shape to these bones?' They agreed. One undertook to put the bones together; the second to supply the skin, flesh, blood, &c.; and the other to communicate life to the figure. When the two first had accomplished their tasks, the third was about to begin his, but the fourth stopped him: 'Consider what you are going to do,' he exclaimed; 'if you give life to the lion, the consequence will be, that he will devour us.' 'Away, blockhead,' replied the sage, 'I am not to project things in vain.' 'Wait an instant, then,' replied the man of sense, 'till I get up into this tree.' So saying, he climbed up into a tree at hand, and his learned associates accomplished their undertaking. A substantial living lion was formed, who fell upon the three philosophers and destroyed them. When he was gone, the man of common sense descended from his hiding-place, and reached home again in safety."

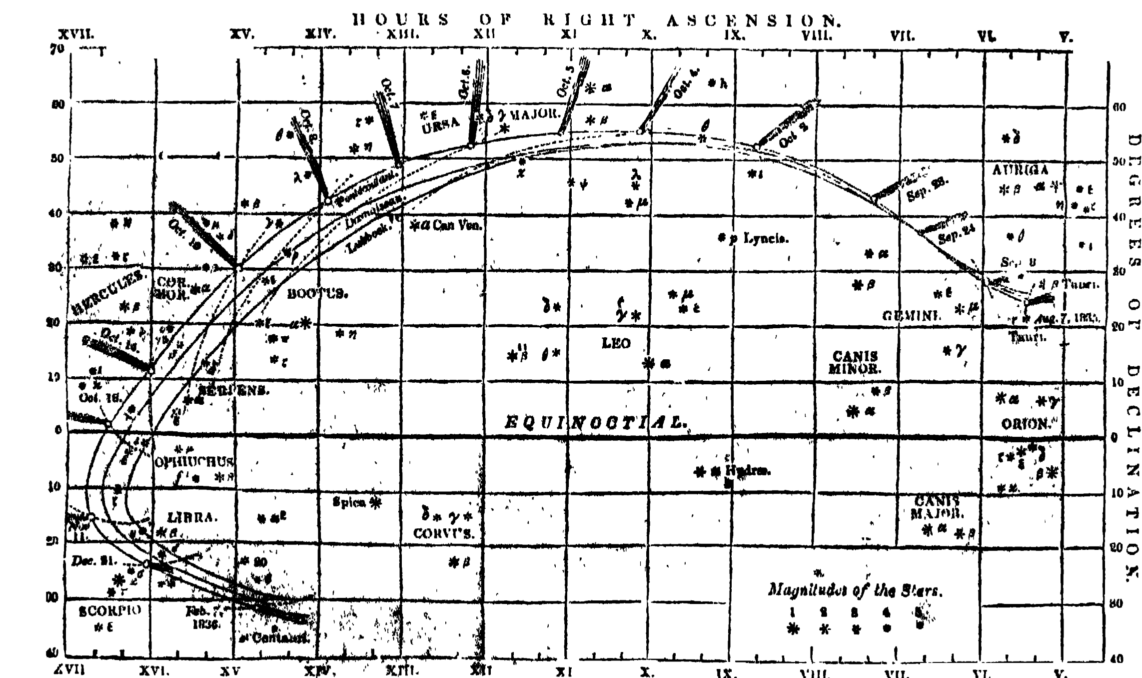
* We have added this sentence from Wilkins's translation as it helps to bring out the sense.

HALLEY'S COMET.

Professor Airy has communicated the following interesting account of Halley's comet to the 'Cambridge Chronicle:'—

"This remarkable body has at length made its appearance. As early as the 6th of August it was seen at Rome; but though carefully sought, it was not discovered in this country so late as Thursday the 20th of August. Early in the morning of Sunday and Monday last (August the 22nd, 15h. and August the 23rd, 14h.) it was seen by Sir James South, at Kensington, and (at very nearly the same times) by a well-known observer, near Bromley, in Kent. The account of the former observations is published in the 'Times' of Monday last; for that of the latter we are indebted to private communication. The admirable mounting of the telescopes employed, especially that of Sir James South's powerful achromatic, rendered the search much less troublesome than it would be with an unmounted telescope. The large telescope presented to our (Cambridge) Observatory by the Duke of Northumberland is not yet mounted, and could not therefore conveniently be employed for seeking the comet. Of the place of the comet, as observed at Rome, we have no further account than that it agreed nearly with the place predicted by M. Damoiseau. On the 22nd of August, 15 hours, Sir James South found its right ascension to be about 5 hours 42 minutes 31 seconds, and its declination 23 degrees 43 seconds north; at Bromley, at nearly the same time, the determinations were 5 hours 42 minutes 20 seconds, and 23 degrees 45 seconds. On the 23rd of August, 14 hours, Sir James South found its right ascension to be 5 hours 43 minutes 18 seconds, and its declination 23 degrees 50 seconds. The right ascensions do not differ materially from those of M. de Pontécoulant's Ephemeris; but the declinations are less by about 1 degree. The time of perihelion-passage calculated by M. de Pontécoulant is the 7th of November: the observations of right ascension would correspond better with the time of perihelion-passage, the 10th of November, and those of declination would be best represented by supposing the time of perihelion-passage the 16th of November. The latter determination is liable to a much smaller error than the former; and we may probably, with much confidence, fix on the 15th of November as the day when the comet will be nearest to the sun. On that supposition the comet will be nearest to the earth about the 11th of October, and its distance will then be less than one-fourth of the sun's distance. For the first ten days of October the comet will not set to this country; and on the 6th or 7th of October it will probably be seen within the square formed by the four principal stars of the Great Bear, or Charles's Wain. The yet imperfect observations make it impossible to predict its place at present with greater accuracy. It is remarkable that, from the accounts of all the observers, the comet at present exhibits no tail: in all its former appearances it is described as having a tail of considerable length. There is, however, reason to believe that all comets diminish in splendour on each successive appearance. The comet is only visible at present with a telescope of at least six inches' aperture.

"The near agreement of the observed time of reappearance with the predicted time (the error not exceeding nine days in seventy-five years) must be considered an astonishing proof of the accuracy which has been introduced into astronomical calculations. The neglect of the most trifling disturbing cause would have many times increased this error, as is evident from the circumstance that the periodic time of this comet has once been increased more than a year by the attractions of the planets. The nearness of the agreement also proves that there is no unknown planet of great bulk (as has sometimes been suspected) near which the comet has passed. The next inquiry among astronomers will be, What is the cause of the trifling disagreement which exists? It is probable that it is entirely due to small errors in the observations at former appearances."



[Course of the Comet among the Fixed Stars, according to the Theories of M. Pontécoulant, M. Damoiseau, and Mr. Lubbock.—From the 'Nautical Almanac.']

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THE EGYPTIAN VULTURE, OR PHARAOH'S CHICKEN.



[Egyptian Vultures.]

ALTHOUGH the parallels which, in the present day, some distinguished naturalists have
between *mammalia* and *birds* are
overstrained and visionary, there

instances in which they are truly indicated by Nature.
instance better esta-
es and the hyæna,
of the earth, they

clear it of its dead, they remove its offal,—its noisome *rejectamenta*, which would otherwise corrupt the air with pestilential exhalations. The vultures, however, have far less ferocity in their disposition than the analogous quadrupeds. The latter attack living prey with great ferocity and strong appetite for blood, whilst the former exclusively gorge upon the carcasses of the dead, and never make the living their victims. Happily for them, they are seldom at a loss for a meal in the countries where they abound. The unburied slain on the field of battle attract them in flocks from a great distance;—the death of any beast in the field calls an assembly to the banquet. Sailing on their wide and ample wings, they sweep from the higher regions of the air to their repast, on which they often gorge themselves till unable to rise from the spot. It is only when impelled by hunger that the vulture proceeds in quest of his carrion-food, and rouses from his apathy to traverse the air. Mounting aloft till almost out of sight, he skims in large circles, sustained on outspread but motionless pinions, scanning the surface of the earth. Often, indeed, the sky seems quite clear, and not the least trace of any bird can be discovered by the eye;—but no sooner does an animal fall,—or no sooner has the hunter slain or abandoned his quarry,—than, as if called at once into existence, multitudes of vultures seem pouring from the sky, and flocking to the feast.

Is it by the powers of sight or of smell that these birds, afar off in the air above, or on the very verge of the horizon, are thus led to their booty? This is a question not yet settled. The ancient classic writers teem with passages attributing to the vulture a keen and discriminating scent; and certainly the development of the organs of this sense would seem to favour the opinion, which is supported by Mr. Waterton and others, but which Mr. Audubon considers to be erroneous. This latter observer of Nature maintains that it is by the extraordinary powers of sight that the vulture perceives his prey, and Le Vaillant explains the circumstance upon the same theory. "Desirous," he says, "of observing how so great a number of vultures could congregate together in so short a space of time, I concealed myself one day in a thicket, after having killed a large gazelle, which I left upon the spot. In an instant a number of ravens made their appearance, fluttering about the animal, and making a great croaking. In less than a quarter of an hour these birds were reinforced by the arrival of kites and buzzards; and immediately afterwards I perceived, on raising my head, a flight of birds at a prodigious height, wheeling round and round in their descent. These I soon recognised to be vultures, which seemed, if I may so express myself, to escape from a cavern in the sky. The first comers fall immediately upon the gazelle, but I did not allow them time to tear it in pieces. I left my concealment, and they betook themselves slowly and heavily to flight, rejoining their comrades, whose numbers seemed to increase. They seemed almost to precipitate themselves from the clouds to share the spoil, but my presence caused them speedily to disappear. Thus it is, then, that the vultures are called upon to participate in their prey:—the first carnivorous birds that discover a carcass rouse the others, which may happen to be in the environs by their cries and by their motions. If the nearest vulture does not spy his prey from the lofty region of the air in which he swims by means of his wide-spread wings, he perceives at least the subaltern and more terrestrial birds of prey preparing to take possession of it; but perhaps he has himself a sufficient power of vision to enable him to discover it. He descends hastily and with a wheeling flight, and his fall directs the other vultures who witness his evolutions, and who no doubt have their instinct sharpened with regard to everything that concerns their food. A concourse of carnivorous birds speedily takes place in the neighbourhood of the carcass sufficient to attract the vultures of the whole district, nearly in the same manner as the disturbance created by a number of men running along the streets of a crowded town attracts the whole population to follow in their train."

Notwithstanding all this, and the experiments of Mr. Audubon, we do not think the conclusion by any means demonstrated, that the vulture is not guided by his scent, as well as by his powers of vision, according as the case may be. The great family of vultures (*vulturidæ*, Vig.) is extensively spread throughout the globe, but especially abounds in the hotter latitudes, where their utility in removing carrion and all putrid animal substances, from the fields, the villages, and even the towns, has been universally acknowledged. As we recede from the hotter climes to the more temperate regions, we gradually lose the presence of the vultures, till at length the boundaries of the race are passed. Their extreme boundaries, however, are more northerly, or rather are carried out more nearly to the higher latitudes of the globe than might at first be suspected. In America the turkey vulture (*cathartes aura*) ranges from Terra del Fuego to Nova Scotia, and the black vulture (*cathartes atratus*) is common in Carolina. Species are found in southern and central Europe, without reckoning the lammer-geyer (*gypætos barbatus*) which forms a connecting link between the timid, indolent, and gluttonous vultures on the one hand, and the fierce, rapacious eagles on the other, we may enumerate the *vultur cinereus* and the griffon, or *vultur fulvus*, both of which occur in the mountain chains of even central Europe, and are tolerably common in the southern districts, being spread over most parts of the old world. To these we may add the remarkable bird of which we give a figure, and which is very common in Spain, viz., the Egyptian vulture, or Pharaoh's chicken (*neophron percnopterus*).

The genus *neophron* may be regarded as equivalent in the Old World to *cathartes* in the New, the Egyptian vulture closely approximating in form, habits, and relatively in the range of its habitat to the turkey vulture so ably described by Wilson and Audubon. Of the vultures of the Old World the Egyptian vulture is the smallest; it is however one of the most numerous, and especially abounds in Egypt and the adjacent provinces of Europe, Asia, and Africa; it has even been seen in Italy and Switzerland, and has once been killed in England. This circumstance occurred in 1825, at Kiive, in Somersetshire; the specimen was that of an immature bird, probably not more than a year old: it was accompanied by a second individual, which was too wary to allow itself to be approached within gunshot. In Egypt the utility of these vultures in clearing the streets of filth of every description (a task which they undertake in common with the pariah dogs) has been frequently noticed. Nor were the services of this bird less valued in ancient than in modern times; it was among the number of the sacred animals, and is often represented pretty accurately on the early monuments of Egypt. Hence its appellation of Pharaoh's chicken. A constant attendant on the caravan, as it pursues its way from town to town,—an assiduous frequenter of the shambles,—an industrious searcher for carrion, it merits, as far at least as its public utility is concerned, the regards of the community; nor are its services overlooked,—if not now adored as a deity, it is at least esteemed as a benefactor. In the neighbourhood of Gibraltar, and in the south of Spain generally, flocks of this vulture are annually seen: most probably they winter in Africa, but of this we have no decided information. Capt. S. E. Cook says that he saw them,

near Seville, following the track of the plough, like rooks, in order to devour the grubs in the upturned soil.

The long and ample wings of the Egyptian vulture give it amazing powers of flight, and enable it to soar with great buoyancy. Like the rest of the family, however, when gorged to repletion with its foul diet, it becomes so sluggish and unwieldy as scarcely to be able to raise itself from the ground, and indeed in this state may be easily captured; not that the task would be very pleasant, so strong and disgusting is the effluvium which it emits.

Bruce considers this bird to be the rachamah of Scripture, (see the appendix to his Travels,) such being the name by which it is now known in Egypt.

In size the Egyptian vulture somewhat exceeds a raven, its length being two feet five or six inches, and the expanse of its wings about five feet eight or nine inches. When in complete plumage, it is of an uniform white, with the exception of the greater quill feathers, which are black. The forehead, cheeks, and throat are naked, the skin being of a livid yellow. The eyes are dark. The bill is slender and straight,—abruptly hooked at the tip. This state of plumage is acquired by successive changes, the first lining being umber-brown, which is gradually exchanged, at each moult, for lighter and lighter tints till the purity of the white is complete. It breeds in the clefts of rocks, and on elevated places, but its eggs have never been described.

CHINA.—No. IV.

The Canals of China.

Even the wonders of the great wall of China are surpassed by the innumerable and long canals, the utility of which is less a matter of doubt than the artificial boundary which has been so often set at nought by invaders.

Availing themselves of the great number of rivers and lakes that exist in their country, the industrious Chinese have almost everywhere opened communications by water, and for this purpose, and for the object of irrigation, have dug so many canals that much of China is like a vaster Holland. The traveller finds almost everywhere a large canal of fine, deep, clear water, flanked by two causeways, cased with flat stones or marble slabs, set in the ground and fastened by groves made in posts or columns of the same materials. From this main canal there shoot off, at certain distances, numbers of smaller canals, the waters of which are again let off into innumerable rivulets that are conducted to different large towns, or employed to irrigate the country. Besides these they have an infinite number of reservoirs and channels by which they can lay the fields under water, to produce rice, their principal food, and which requires almost constant humidity.

But nothing in China or in any other part of the world is to be compared with the Yun Leang, or Royal Canal, which is 300 leagues in length*. It was dug by an almost incredible multitude of men, and at a most prodigious expense, under the Emperor Chi-tsou, (about the year 1280,) the founder of the dynasty of the Western Tartars. "This canal," says Du Halde, "traverses the provinces of Pe-tche-li and Chan-tong; then it enters the province of Kiang-nan, and discharges itself into the great and rapid Yellow River. Down this river you sail for two days, when you come to another river, where you find again the canal, which leads to the city of Hoai-ngan; from thence it passes by many cities and large towns, and arrives at the city of Yang-tcheou, one of the most famous ports of the empire; and a little beyond this place it enters the great river Yang-tse Kiang, which divides the province of Kiang-si nearly into two equal parts, and runs as far as Nan-ngan, from whence you go by land to Nan-hiong, the chief city of the province of Quang-tong, where you embark upon a river that leads to Canton; so that you may travel very commodiously, upon the rivers or canals, from the capital to the remotest part of China, being about 600 leagues, by water."

* "I may safely say that, in point of magnitude, our most extensive inland navigation of England can no more be compared to this grand trunk that intersects China than a park or garden fish-pond to the great lake of Winandermere."—Barrow.

In 'Purchas's Pilgrims' this extensive canal is styled "a hand-made river," and is described with his usual quaintness and effect. "This worke is goodly and wonderfull for the site and length, and more for the profit thereby to the cities. There are also causies made to goe on land by those waters commodiously," &c. Mr. Barrow, in his Travels in China, gives, in a few words, a general idea of the principles on which this grand undertaking was carried on:—"All the rivers of China fall from the high lands of Tartary, which lie to the northward of Thibet, crossing the plains of this empire in their descent to the sea from west to east. The inland navigation being carried from north to south, cuts these rivers at right angles, the smaller streams of which terminating in it afford a constant supply of water; and the three great rivers intersecting the canal carry off the superfluous water to the sea. The former, therefore, are the feeders, and the latter the dischargers, of the great trunk of the canal. A number of difficulties must have arisen in accommodating the general level of the canal to the several levels of the feeding streams; for notwithstanding all the favourable circumstances of the face of the country, it has been found necessary in many places to cut down to the depth of sixty or seventy feet below the surface; and in others, to raise mounds of earth upon lakes and swamps and marshy grounds of such a length and magnitude that nothing short of the absolute command over multitudes could have accomplished an undertaking whose immensity is only exceeded by the great wall. These gigantic embankments are sometimes carried through lakes of several miles in diameter, between which the water is forced up to a height considerably above that of the lake; and in such situations we sometimes observed this enormous aqueduct gliding along at the rate of three miles an hour."

Constant labour and the most unremitting attention are employed for the preservation of this magnificent canal; it is constantly visited by inspectors, and hosts of workmen are stationed along it to repair any damage the moment it happens. When the water rises too high, sluices are opened which convey the superfluity into small canals without inundating the country, and keep the stream in the main channel to its proper elevation, which allows a depth of a fathom and a half, quite sufficient for the vessels that navigate it.

A canal of such length must of necessity be furnished with locks, or something equivalent to them; and here it is curious to compare the contrivance of the Chinese with our own.

"I have myself," says Father Kircher, "counted upon the grand canal above twenty cataracts or waterfalls, made of hewn stone, firm and nobly artificial, with a passage for ships, where they dam up the waters with a sluice, which is easily heaved up by benefit of an engine with a wheel, affording an outlet to the waters, and a passage to the ships; and if they want water for great vessels, then in the middle passage, before you come to Cining, they let in from the lake Cang, through the greatest cataract, as much as they please, timely closing the passage to prevent an inundation. These cataracts are commonly called Tung-pa, because they sustain the force of water flowing from

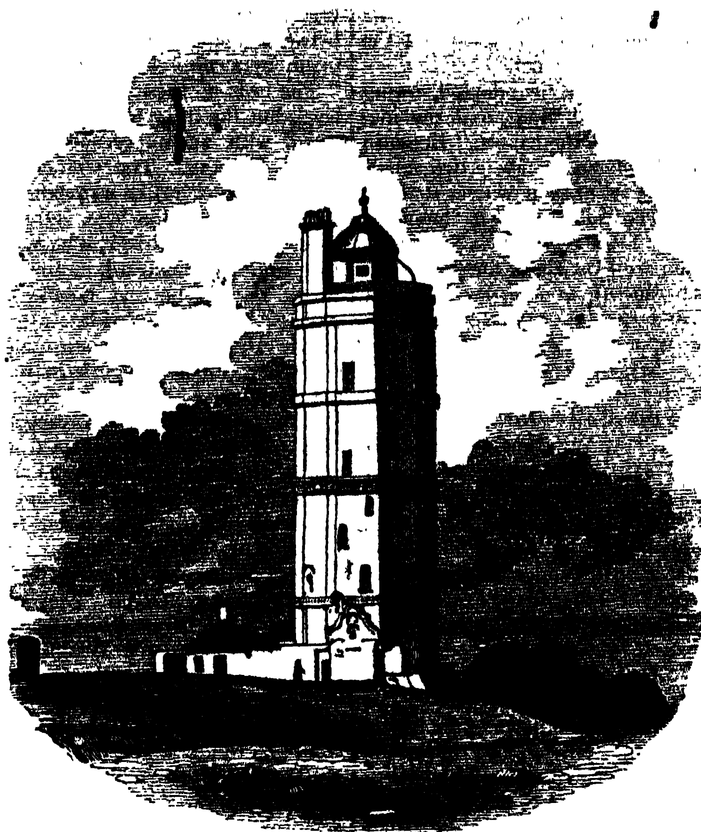
the lake: now when ships arrive, that they may not be forced to sail through the lake, they have cut a trench or channel on the bank, fortified with ramparts, by which all ships do easily pass. At each cataract are persons maintained at the public charge, to attend the ships until they have passed the cataract."

This method, however, could not be adopted, owing to the great difference in their elevations, and the inequality of the soil in many of the canals. Between Yang-fou and Tchu-san, for example, where two canals meet, the difference in the level of their waters is above six feet. To pass the vessels from the one to the other, the most simple plan has been resorted to. A glacis, or an inclined plane, at an angle of about forty degrees, built with stone and kept smooth or slippery, raises at the end of the canal, and the vessel that has to pass from the lower to the upper water, is dragged up, having cables attached to her, by means of two or more (sometimes as many as six) enormous capstans, which are placed by the sides of the canals above the inclined plane. Each windlass has four bars, manned by from twelve to sixteen men. Having once made the ascent, the vessel descends by the force of gravity into the upper canal by means of another but shorter inclined plane, the apex of the two planes being always somewhat above the level of the water in the upper canal. When the vessel has to pass from the upper to the lower canal, the labour is of course less, as she has only to be dragged up the shorter inclined plane, when she glides down the longer one of herself. According to Dr. Dinwiddie, who had an opportunity of examining more at leisure both the common canal and the other canals whose communication is maintained by means of this *glacis* or inclined plane, "the flood-gates of the Chinese are preferable to English locks, in every situation where the canal is nearly level, and are constructed at a quarter of the expense. The inclined plane down which the boats are launched, and up which they are drawn, is a mode superior to our practise, for besides their being cheaper they are much more expeditious. The time employed in one instance observed, was only 2½ minutes, in another about 3 minutes."

In every account of China the description of the Grand Canal forms a prominent feature. "This magnificent work," says Marco Polo, whose descriptions here, as in so many other instances, have been confirmed by modern and most authentic authorities, "is deserving of all admiration, and not so much from the manner in which it is conducted through the country, or its vast extent, as from its utility and the benefit it produces to those cities which lie in its course. On its banks, likewise, are constructed strong and wide terraces, or *chaussées*, upon which the travelling by land also is rendered perfectly convenient." This was written in the thirteenth century, and perfectly agrees with the account we have already given. "It is an inland navigation of such extent and magnitude," says Mr. Barrow, "as to stand unrivalled in the history of the world." "There are no undertakings of utility and invention for which the Chinese are more celebrated than for these wonderful communications by water through the interior of their vast empire,"—says Lord Macartney. "These have excited general admiration among foreigners. As a considerable part of our journey was upon what is usually called the Grand or Imperial Canal, I am enabled to give some account of it. This great work was executed for the purpose of laying open to each other the northern and southern provinces of the empire. It is more properly an improved river than an entirely artificial canal, according to our general acceptation of the term, for it has a descent almost in every part, and generally runs with a considerable velocity." His lordship then goes on to describe how the Chinese, who he supposes to be ignorant of the principles of levelling, had sagacity to avail themselves of every natural advantage offered by the elevation or depression of the ground over which the water was to be conveyed. He traces the communication between the rivers Eu-ho and Hoang-ho, which is made by a canal 200 miles long, and in this manner. "The beds of these two rivers are nearly on the same level, but the interjacent country rises from each of the rivers with an imperceptible ascent, and is highest about mid-way. The Chinese had no instrument or other means of art to ascertain this point of elevation, but nature seems to have indicated it to them by the course of another river, which, rising to the eastward, and running westward in the intermediate space between the Eu-ho and Hoang-ho, is obstructed in its passage, and then divides into two branches, one of which takes a northern course and falls into the Eu-ho, the other pursues a southern route and descends into the Hoang-ho. The northern stream seems to have been generally traced according to all its windings, the bed of it enlarged, and formed with a uniform descent, and its navigation improved by flood-gates thrown across at certain distances, sometimes of two, three, or more miles asunder, in order to prevent too great or too sudden a loss of water."

Lord Macartney then describes the flood-gates, which we have already noticed. They only consist of a few loose planks, sliding between two grooves, cut in the stone piers or abutments, which project on each side from the banks of the canal, and approach so near, as to leave in the middle only a sufficient space for the passage of the largest sized junk. His Lordship then proceeds:—"A few miles before the northern branch joins the Eu-ho, instead of following, as formerly, the natural windings of the stream, it is carried straight forward in one direction, by a deep cut of forty feet through a partial elevation of the surface of the ground. The task was not difficult, as the soil is a mixture of light sand and clay, entirely free from rocks or any sort of stone. But the southern branch required more management and address, as its progress was to be directed over a great extent of swampy grounds and lakes, and from thence through an ascending country to the Hoang-ho. On approaching this morass, they were obliged to cut very deep below the surface of the ground, for the purpose of giving the water a velocity sufficient to force itself between two high banks raised above the inundated country with incredible labour and expense. In one place it traverses a vast lake, whose surface is far below its own, and there its banks are rivetted with enormous blocks of marble, clasped together at the top with iron; and lest the body of water in the canal should prove too strong for the resistance of the banks, they are intersected with sluices at certain distances, through which the superfluous water passes into deep ditches or hollows formed on each side in the middle of the banks themselves. The surface of the water let into these ditches or hollows being kept at a mean height between the surfaces of the canal and the lake, the pressure of the body of water is diminished by one-half, and the danger of disruption proportionately diminished. The canal then proceeds through a rising country, being often thirty and forty feet below the surface of the ground, and falls into the Hoang-ho with a current of two to three miles per hour. From this account it may be inferred that the Chinese in flat or nearly flat countries, are chiefly directed by the apparent course of the natural streams, follow it as nearly as possible, without regarding the labour or expense attending such a system, and when they come to a difficulty not easily surmounted by their other means, they have recourse to a *glacis*, up and down which the vessels are passed between two canals of different levels."

NORTH FORELAND LIGHTHOUSE.



[North Foreland Lighthouse. Aug. 18, 1834.]

The North Foreland is a promontory in the Isle of Thanet, and is so called to distinguish it from another promontory called the "South Foreland," between Deal and Dover. It was well known to the Roman seamen under the name of Cantium Promontorium. The lighthouse, which has long stood on this point, is not a very picturesque or striking object; but as the dangerous neighbourhood of the Godwin Sands, which lie off the promontory, renders it one of the most useful of our lighthouses, and as, from its situation near the mouth of the Thames, it is better known to a greater number of persons than any other, we present an engraving of it to our readers.

A full account of the Eddystone Lighthouse, with engravings, has been given in a former Number of the 'Penny Magazine.' The history of the present structure is not without interest, but its interest is of a different kind from that of the former, arising almost entirely from the intimations it contains of the improvements gradually introduced in the mode of effecting the object for which it was established.

The necessity for a lighthouse at this place must have become apparent when the Godwin Sands became dangerous, and when it was found that in directing their course so as to keep clear of this land, which extends so far into the sea, ships were extremely liable to strike on the sands at night before they were aware. There was probably some sort of a beacon at an earlier period, but the first distinct intimation concerning a lighthouse on the North Foreland is in the year 1636, when Charles I., by letters-patent, granted to Sir John Meldrum licence to continue and renew the lighthouses then by him erected on the North and South Forelands. It seems that the lighthouse erected by Sir John consisted merely of a house, built with timber, lath, and plaster, on the top of which a light was kept in a large glass lantern, for the purpose of directing ships in their course. This house was burnt down by accident in the year 1683; after which, for some years, use was made of a sort of beacon on which a light was hoisted. But near the end of the same century a strong octagonal structure of flint was erected, on the top of which was an iron grate quite open to the air, in which a good fire of coals was kept blazing at night.

About the year 1732 the top of this lighthouse was covered with a sort of lantern, with large sash windows, and the fire was kept bright by bellows, with which the attendants blew throughout the night. This contrivance is said to have been for the purpose of saving coals; but it would seem more probable that it was in order to preserve the fire from being extinguished by rain. However the plan did not work well, and great injury resulted to navigation, as many vessels were lost on the sands from not seeing the light, and so little was it visible at sea, that mariners asserted that they had often in hazy weather seen the Foreland before they could discover the light. They added, that before the lantern was placed there, and when the fire was kept in the open air, the wind kept the fire in a constant blaze, which was seen in the air far above the lighthouse.

Complaints of this sort were so loud and frequent, that the governors of Greenwich Hospital, to whom the lighthouse belonged, sent Sir John Thomson to examine and make arrangements on the subject. He ordered the lantern to be taken away, and things to be restored to nearly their former state, the light to continue burning all the night until daylight.

Towards the end of the last century the North Fore-

land Lighthouse underwent some considerable alterations and repairs, which brought it into nearly its present state. Two stories of brick were built on the original structure, which raised it to the height of about 100 feet, including the room at the top in which the lights are kept. This room, which may be described as a dome raised upon a decagon, is about ten feet in diameter and twelve in height. To prevent accidents from fire, it is coated with copper, as is also the gallery around it. This gallery is much frequented by the visiters to Margate on account of the extensive views which it commands, some idea of which may be formed from the fact that the lights are visible in clear weather at the Nore, which is thirty miles distant. The building is white-washed, except the light-room at the top, and the several other rooms which it contains are occupied by the persons who have it under their charge.

The two sides of the decagon towards the land are walled up; but at the time of the above alterations the coal-fire was discontinued, and in each of the other faces of the decagon was placed a patent lamp with a reflector and a magnifying lens. These lenses were twenty inches in diameter, and cost 50*l.* each, and were recommended as curiosities to the notice of visiters in the 'Margate Guides.' These, however, seem to be the same lenses which are mentioned with great disapprobation by Lieutenant Drummond in his evidence before the Committee of the House of Commons, in April, 1834. Having previously stated incidentally that he thought it not improbable that a vessel might run against the lighthouse without seeing the light, and that he had been informed that such an event had occurred, he was requested by the Committee to explain this matter more particularly. He then said:—"It is a mode of lighting which has been discontinued in this country. About three years ago I saw it in the North Foreland Lighthouse, then under the management of Greenwich Hospital. The mode there adopted was a combination of the lens with the reflector; a lens not similar to the French, but consisting of one solid piece of glass, very thick and very bad. The result of this arrangement was entirely to destroy the effect of the reflector; and in fact, it was absolutely putting a shade before a good light. In ordinary cases a window of the lantern is of thick clear plate-glass; but here, instead of the plate-glass, they put a lens in front of each, which destroyed the parallelism of the beam of light from the reflector and entirely injured its effect. The reflector, it is true, did not interfere with the lens; but from the thickness and badness of the glass, and other causes of an optical nature, the effect of the lens was far inferior to that of the reflector when unobstructed by the lens." When the Trinity House, soon after this, acquired the management of the lighthouse, these costly lenses were immediately removed, and plate-glass was substituted, in consequence of which the light, though otherwise unaltered, appears much more brilliant than before.

The grant of Sir John Meldrum, who originally established the lighthouse in the North Foreland, was for fifty years, during which he was empowered to demand 1*d.* per ton on all British ships that passed the lighthouses, and 2*d.* per ton on all foreign ships, paying to the crown a reserved rent of 20*l.* a year. This grant was renewed from time to time to private persons, the last of whom, Mr. Osbolston, bequeathed by will the remainder of his interest to Greenwich Hospital. When this remainder expired in 1733, the crown renewed the grant to the Hospital for ninety-nine years, on the termination of which in 1832 the lighthouses were transferred to the Elder Brothers of the Trinity House, who agreed to give 8366*l.* in compensation to the Hospital, and at the same time to reduce the dues in future to ½*d.* per ton on British ships, and ½*d.* per ton on foreign vessels.

At the time of the grant to Greenwich Hospital in 1733, the Foreland lighthouses yielded together about 1200*l.* per annum, and in some years 1400*l.* In 1831, the dues remaining the same, the gross receipts of the lighthouses amounted to 12,010*l.*, an increase which affords a curious incidental illustration of the extension of maritime commerce within the last hundred years. Of this sum 2124*l.* was expended in collecting the dues and maintaining the lighthouses, and 20*l.* was paid as rent to the crown, leaving 9866*l.* profit to the Hospital. The Trinity Board calculates that under the diminished dues its gross receipts from the lighthouses will amount to 2350*l.*, leaving, after all expenses, 900*l.* to compensate the Board for the outlay of capital; the resulting profit being for the benefit of merchant seamen.

To these particulars concerning the North Foreland Lighthouse we may add a few general remarks concerning the management and revenues of such establishments in this country. There are ample statements on this subject in the Report which was delivered last year by the Select Committee of the House of Commons appointed to inquire into the state and management of Lighthouses. From this bulky mass of documents we collect that the shipping interest has been made to pay dearly for the convenience and security which the lighthouses afford; and we find abundant matter to justify the bitter complaints which a person who takes a passage by sea is sure to hear from his captain on the subject, particularly if that captain happens to be the owner of the vessel. A few simple statements will make this matter clear to our readers. The Committee says:—

"Your Committee has learned with some surprise that the lighthouse establishments have been conducted in the several parts of the United Kingdom under entirely different systems; different as regards the constitution of the board of management, different as regards the rates or amount of the light dues, and different in the principle on which they are levied. They have found that these establishments, of such importance to the extensive naval and commercial interests of this kingdom, instead of being conducted under the immediate superintendence of the government, upon one uniform system, and under responsible servants, with proper foresight to provide for the safety of the shipping in the most efficient manner, and on the most economical plans, have been left to spring up as it were by slow degrees, as the local wants required, often after disastrous losses at sea; and it may perhaps be considered as a matter of reproach to this great country, that for ages past, as well as at the present time, a considerable portion of the establishments of lighthouses have been the means of heavily taxing the trade of the country, for the benefit of a few private individuals, who have been favoured with that advantage by the ministers and the sovereign of the day."

The subjoined table, which condenses the statistics of this subject, will render clear the preceding and following observations. It shows the number of the public lighthouses maintained in the United Kingdom, the amount of light dues received, the sums expended, and the net surplus in 1832.

No. of Lights.	By whom held.	Gross Collection.	Charges of Collection.	Expense of Maintenance.	Net Surplus.
55	By Trinity House, London	83,041	6,670	35,904	40 467
14	By Private Individuals	79,676	10,244	9,109	60,322
25	By Commissioners of Northern Lights, Scotland	35,526	3,261	11,314	20,051
40	By Commissioners of Ballast Board, Ireland	42,061	1,960	18,505	21,596
134		240,304	22,135	74,832	142,436

This account leaves the local harbour-lights out of view, and, as to the number of lighthouses, somewha.

differs from another, which states that there are in all 219 lights in the United Kingdom; namely, 105 public general lights on land, and 17 floating lights; 93 local or harbour-lights on land, and 4 floating lights. In particular reference to the facts which the above abstract of our lighthouse-statistics exhibits, the 'Edinburgh Review,' which had an article on this subject in its April Number, thus states the results which it affords:—"1. The enormous sum of 240,394*l.* is annually levied from the shipping interest of Great Britain and placed at the disposal of irresponsible boards, or used for the benefit of private individuals. 2. The annual sum *actually applied* to the purpose for which the whole sum is levied is only 74,832*l.* 3. The net surplus, or the sum *unnecessarily levied*, amounts to 142,436*l.* 4. The expense of collection, amounting to 22,135*l.*, is little less than one-third of the expense of maintaining all the lights in this kingdom, and is twice the expense of maintaining all the French lighthouses."

It is to be borne in mind that this large sum unnecessarily levied for light-dues is not a matter merely affecting the masters and crews of vessels, or indeed the shipping-interest at all. It is a question in which the public at large are interested, because those who pay the sum in the first instance necessarily indemnify themselves by raising in proportion the price to the purchaser of the articles with which the vessels are laden. The lighthouse-dues are therefore, as the 'Edinburgh Review' remarks, "paid by every consumer of foreign and domestic produce carried coastwise;—every child that sucks an orange, and every dandy that smokes a cigar, is a contributor to the lighthouse-revenues as well as to that of the customs."

The dues are particularly heavy upon every foreign vessel, from which a double rate is required; and it is thus taxed not only when it proceeds with goods or money to our harbours and returns laden with our produce and manufactures, but "it is equally taxed when, on its way to more distant kingdoms, it is driven by stress of weather into the shelter of our bays and headlands, and the captain is called to pay a heavy penalty for attempting to save the property of his employers and the lives of his shipmates. The same absurd and cruel regulation is applicable also to British vessels; and there can be no doubt that ships and lives are frequently lost in their attempts to shun the *Scylla* of the lighthouses while they are escaping from the *Charybdis* of the elements*."

The mere pecuniary pressure of the light dues is, however, by no means the only evil of the system now in operation. The number of boards and individuals by whom the lighthouses are held, and who have no mutual understanding among themselves, and have no determined rules for their guidance, occasions the most vexatious and perplexing inequality of dues and discordance of legislation. Even the pressure of the same dues now operates unequally, as between sailing and steam-vessels. This matter is thus noticed by the committee:—

"The present rates are made without reference to the peculiarities attending on the navigation of that class of vessels (steamers) which appear to warrant a reduction of the dues. A vessel under sail is driven by winds and tides that lie in her course, and, in tacking, derives much benefit from the lights; but steamers move in straight lines, and perform much of their voyage in the day time: they see few lights, and, by the rapidity of their movements, soon pass them. Besides, the people who navigate them acquire, from the frequency of their trips, such an intimate acquaintance with the coast as renders the lights of comparatively little use to them. Again, steamers are obliged generally to sail at fixed times, full or not full; and the carrying tonnage of a steamer is not so capacious as that of another vessel, the best part of the hold being occupied by machinery. By the return of the voyages of fifteen steam vessels, between the River Clyde and Liverpool, Belfast, Dublin, and Londonderry, in one year (1833), there was paid for light dues 3261*l.*, a very heavy charge on such vessels; and many similar instances might, if necessary, be stated."

* 'Edinburgh Review.'

The system, the principal features of which we have attempted to delineate, is censured in the strongest terms by the committee of the House of Commons. The remedial measures which they suggest are principally the following:—That all the public general lighthouses should be placed under one board resident in London, and conducted under one system of management. That the light dues should in every case be reduced to the smallest sums requisite to maintain the existing lighthouses and floating lights, or to establish such new ones as may be required. The committee had considered whether the lighthouses might not be maintained out of the public treasury, in the same way as the consular charges are defrayed; and also whether it might not be better to levy a tonnage duty on ships entering our ports, whether British or foreign, once every six months, or yearly, instead of on every voyage as at present; but they decline to give an opinion on either of these plans. They recommend that the double duty on foreign vessels should be removed, and that vessels driven into port by stress of weather should not be obliged to pay the light dues, if they do not break bulk or take in cargo at such port. It is also their opinion that, in the peculiar circumstances of steam-vessels, there ought to be a modification of the dues at present levied upon them.

MINERAL KINGDOM.—Section XLIV.

Zinc.

This metal was first described under the name of *Zinctum* by the celebrated alchemist Paracelsus, a native of the canton of Schweiz, who lived in the early part of the sixteenth century; but it was probably known long before, for it enters into the composition of some kinds of ancient brass. The name is supposed by Leonhard to be of German origin, and to have been a miner's term, from the word *Zinke*, which signifies a sharp point or pinnacle, the metal assuming, in the furnace, a toothed or jagged appearance, from shooting into crystalline forms. In England it is known in commerce by the name of *Spelter*.

When pure, zinc is of a bluish-white colour, with a bright metallic lustre, but it is speedily tarnished by the air. It is of a low specific gravity, viz.. 7·10, that is, about seven times as heavy as an equal bulk of water. It is very brittle at ordinary temperatures, but when heated to that of boiling water, or 212°, it becomes malleable, and may be beat or rolled out into tolerably thin plates; and that property continues until the heat goes beyond 300°, when it again becomes brittle, and if it be raised to about 400°, it may be easily reduced to powder. It must be heated also in order to show its property of ductility; but if the wire be properly annealed, it retains, when cold, a considerable degree of tenacity,—a wire of one-tenth of an inch in diameter supporting a weight of 26 lbs. It melts at a heat equal to 773° of Fahrenheit: by a moderate increase of temperature, it is volatilized unchanged in close vessels, but exposed to the air it forms a white oxide called flowers of zinc; and if the heat be raised to 941°, it burns with a brilliant white light: it is little altered by exposure to air and moisture.

Zinc has never been found in the pure or native

state, but always in combination with oxygen, carbonic acid, sulphur, water, earthy and other metallic bodies; but there are not many varieties of its ores. The most commonly met with are those called *Calamine* and *Blende*. Calamine (the *Lapis Calaminaris* of old medical books) is a compound of about 65 per cent. of oxide of zinc and 35 of carbonic acid; and some varieties of it are composed of 72 of oxide of zinc, 13 of carbonic acid, and 15 of water. Blende, called by the English miners "*Black Jack*," is a compound of zinc and sulphur; the proportions of the zinc and sulphur varying much in the ore of different situations, and almost all of them contain a portion of iron, earthy matter, and water. Blende is found in the primary and in the older of the secondary stratified rocks, and very frequently accompanies ores of lead and copper, but especially the former. Calamine is more commonly met with in the secondary strata, and principally in limestone. The ores of zinc have not hitherto been found in the igneous or unstratified rocks, and only sparingly in the sedimentary deposits superior to the coal-strata. They are met with in Germany, Belgium, France, and Sweden; and in Great Britain, in Cornwall, especially in Huel Hope mine, in the parish of Gwennap; in a conglomerate or puddingstone-rock of the Mendip Hills in Somersetshire; abundantly in the limestone of Derbyshire, where the lead-mines are situated; and associated with the lead-ore at Holywell in Flintshire; at Aldstone Moor in Cumberland; and at Wanlock Head and Lead-Hills on the borders of the counties of Dumfries and Lanark. But all the zinc that is now produced in the United Kingdom is trifling in quantity, and quite insufficient for the demand, so that a large amount is imported annually, chiefly from Germany and Belgium. In the year 1833 the importation was 65,115 cwts., of which rather more than a half was retained for home consumption, the chief export being to the East Indies.

To obtain the metal, the ore, whether it be calamine or blende, after being raised from the mine, is carefully picked, to separate any impurities, and roasted in a furnace in a moderately red heat, by which the carbonic acid is driven off from the calamine and the sulphur from the blende. An oxide of zinc remains, and this is intimately mixed with powdered coal by their being ground together in a mill. The mixture is now put into large earthen crucibles, about four feet high, having an iron tube in the interior, one end of which rises near to the top, the other passing through the bottom of the jar and the floor of the furnace into a cistern of water underneath. Covers are firmly luted to the crucibles; they are surrounded with fuel in the furnace, and an intense heat is kept up for several hours. The carbon of the coal combines with the oxygen of the ore; and the metallic zinc, thus set free, rises in a melted state to the top of the crucible, descends through the iron tube, and is condensed in the water in the form of drops. These drops, being collected, are again melted, and poured into moulds to form the bars or ingots in which the metal is brought to market. Eight tons of calamine and twenty-two tons of coal yield about two tons of zinc.

Uses of Zinc.—The chief consumption of this metal is in making brass, which is a compound of copper and zinc. The ores, after undergoing the process of roasting near the mines in England, are chiefly smelted in the neighbourhood of Birmingham, Sheffield, and Bristol, where there are large manufactories of brass. The proportions of the two metals are very different in the brass made in different places. The common brass of Paris contains about 13 per cent. of zinc, that of England rather more; and a remarkably fine brass made at Geneva for the nicer parts of watchmaking contains as much as 25 per cent. The brass of England is far inferior to that made in many parts of the continent, and that used for philosophical instruments is chiefly obtained from Holland. Zinc, rolled out into sheets, has been used for covering houses instead of lead, and it has of late been manufactured into vessels for culinary and other domestic purposes. It is very unsuitable, however, for kitchen-utensils, because it combines very readily with acids, and such combinations act as violent emetics. Zinc is used in China for coins. United with oxygen it forms a white powder, which is used in oil-painting. White vitriol, a substance employed in many processes of art, and in medicine, is a compound of zinc and sulphuric acid.

Preambles.—Some will preamble a tale impertinently, and cannot be delivered of a jest till they have travelled [travailled] an hour in trivials; as if they had taken the whole tale in stenography, and now were putting it out at large.—*Owen Feltham's Resolves.*

Regulation of Expenses.—In expenses I would be neither pinching nor prodigal; yet, if my means allow it not, rather thought too sparing than a little profuse. Saving inclines to judgment, but lavish expenses to levity and inconsiderateness. With the wise 'tis no disgrace to make a man's ability his compass of sail and line to walk by; and to exceed it, for them that are not wise, is to be sure to exceed them as well in folly as expense. He is equally ridiculous that will burn out his taper while the sun doth shine, as he that will go to bed in the dark to save his expense of light. It is my part to know what I may do, while others look only at the stream, but are not concerned how the fountain may supply it. Though the look to what I spend is grateful to them, yet I ought to care for what is convenient for me. He that spends to his proportion is as brave as a prince, and a prince exceeding that is a prodigal. There is no gallantry beyond what is fit and decent. Unseemly bounty is waste both of wealth and wit. He that, when he should not, spends too much, shall, when he would not, have too little to spend. It was a witty reason of Diogenes when he asked but a halfpenny of the thrifty man and a pound of the prodigal:—the first, he said might give him often; but the other, ere long, would have nothing to give. To spare in weighty causes is the worst and most unhappy part of thrift that can be. Liberality, like a warm shower, mollifies the hardest earth and prepares it for fertility; but he that is penurious turns his friends into enemies, and hardens that which himself desires to find pliant. Who can expect to reap that never sowed his seed; or, in a drought, who will not expect to find his harvest poor? Doubtless there is not any worse husbandry than the being too near, and sordidly miserable; and there is no man but at the long run loses by it. Nor, on the other hand, can we find that to spend vainly, even with a plentiful fortune, hath any warrant either from prudence or religion. 'Tis a kind of scandal to the wise to see a riotous waste made of wealth that might be employed to more precious uses. If we have a superfluity, the poor have an interest in it: but surely none is due to either waste or wantonness. Wealth foolishly consumed is wine upon the pavement dasht, which was by Providence destined to have cheered the heart. If the thing had been condemnable, or his intention warrantable, it was not phrased amiss when Judas grumbled,—'To what purpose is this waste?' Certainly, here is a better use to be made of our talents than to cast them away in waste. If God gave us them not to lie idly by us, we cannot think he should be pleased, when either loosely we consume them or lewdly we mispend them. 'Tis the improving, not the wasting or hoarding, that the master does commend; and this should be with moderation; else the gloss and grace of all is dull."—*Owen Feltham's Resolves.*

*** The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

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NEAPOLITAN CASTLES.



[Castello Nuovo, and Castle of Sant' Elmo at Naples.]

The fortress represented in the foreground of our view (which is from an original drawing by Mr. Delamotte) is the Castello Nuovo, or New Castle of Naples, rather improperly so called if we consider the antiquity of its first foundation. It was built by Charles I., commonly called Charles of Anjou, in 1266, immediately after he had defeated the good King Manfred and conquered the Neapolitan kingdom. It was erected after a French model, and filled by a garrison of French and Angevins, who sorely oppressed the people. It was then styled the New Castle, to distinguish it from an old castle, near the Capuan gate, built by the Suabian dynasty of Naples after a German model. Being placed close on the sea-shore, at the head of the great mole, it was intended to defend the port of Naples, and to serve as a sure point at which to receive succours from France in time of need. If our readers will look back to Number 33 of the 'Penny Magazine' they will find an outline plan of Naples, which shows the situation of the castle. During the reign of the Angevin princes it frequently served as a royal palace; and within its walls some of the most tragical events in the lives of the Queens Joanna I. and Joanna II. took place. Under the first of these two princesses, Petrarca was a frequent visiter at the Castello Nuovo. About the year 1430 Alfonso of Aragon greatly enlarged the castle, and brought it nearly to the form and condition in which it is now seen. The only parts of the works of the Angevins that remain are a strong round tower near the sea, called La Torre di San Vincenzo, the massy basements of some walls, some curious dungeons, and certain dark passages underground, which now lead nowhere, but that seem once to have opened on the sea-shore. According to popular tradition, a crocodile once crept in by one of these passages and lived there a long time, feeding on soldiers; and they even show the identical "alligator stuffed," which is, or at least was a few years ago, hung over the arch of one of the interior gates of the castle. But, whether alive or dead, the animal must have been conveyed there by human means, as we need not inform our readers that crocodiles are not found in Europe, and that it is not in the habits of those creatures to put to sea, or cross the Mediterranean from Egypt or the Moorish coast. According to the soldiers, with whom the writer of this article has often conversed, all the old parts of the fortress are dreadfully infested with spirits and goblins; and if deeds of blood could give existence to such unreal essences, doubtlessly they are to be found in this ancient stronghold of tyranny. But the Neapolitans have no notion of ghosts, or "spectres all in white,"—their superstitions only recognise spirits and goblins; and their *monaciello*, their head-hob-goblin, is such a strange creation, being rather farcical

than "horrible and awful," that, on some future occasion, we may amuse our readers with an account of him. The notion is among the singular aberrations of the human mind; and it is interesting to see how superstitions that are varied by climate catch and retain the salient points of national character. The ghastly spirit of the cloudy misty North is little more than a buffoon,—a spiritual Policinello under the gay sky of Naples.

In 1484, Ferdinand I., who enlarged the city and extended its walls and fortifications, strengthened the Castello Nuovo; and in the early part of the sixteenth century, the last works of any consequence were added to it by the Emperor Charles V., who included Naples and Sicily in his vast dominions. Shortly after, the Spanish viceroys built a palace,—the present Palazzo Reale,—close to the castle, to enjoy its protection in case of popular tumults, which were very often excited by their bigotry and oppression. Shut up within these gloomy walls, with not an inch of ground to stand upon beyond the lines of this and other fortresses, more than one Spanish Don has trembled before the irresistible might of a whole people moved by one determined feeling and object. A memorable instance of this occurred in 1547, when the viceroy of the bigoted Philip II. attempted to establish the Inquisition, to which detestable tribunal the Neapolitans never would submit, and never have submitted. Another instance was at the revolt of Mas' Aniello, the wonderful fisherman of Amalfi, in 1647, when the people of Naples rose to a man against their haughty oppressors, and, after five days' fighting, expelled them from the streets of the city.

Since the modern improvements in the art of war, the only use of the Castello Nuovo, the Castello dell' Uovo, the Carmine, and all the forts in Naples, with the exception of the castle of Sant' Elmo, on the hill behind the city, is to check the people, and to serve as barracks for troops. Commanded on all sides, and open to a bombardment by sea, they are contemptible as a means of resisting a foreign enemy. At the sanguinary counter-revolution of 1799, the Castello Nuovo, as well as Sant' Elmo, served as a state-prison for the patriots or republicans; and many of the noblest and best of the land,—fair women and youths, with men of mature age, and men at the extreme period of old age, were dragged from its dungeons to the scaffold.

These and other recollections may give a melancholy interest to the castle, which in itself is a stark, formal, straight-lined, unpicturesque edifice. The ivy and the moss that we look for on old towers and battlements have not been allowed to grow there; and the last time we saw the castle (in 1827), the late King Francesco had just made it perfectly hideous by covering it nearly all over with a coat of bluish-white plaster. In the interior there is a curious triumphal arch, called l'Arco d'Alfonso, and a bronze gate, elaborately sculptured, and close by it there are some bronze statues of doughty warriors, with their truncheons in their hands, which are worth looking at on account of the notion they give of the plate-armour and costume of the fifteenth and sixteenth centuries, under the Aragonese and Austro-Spanish dynasties. As works of art they are poor enough, being hard, stiff, and formal in the extreme. In the bronze gate, which is hollow, there is a cannon-ball lodged in a singular manner. After penetrating the outer sheet of bronze, the orifice made seems to have contracted and closed round the ball, which, though it can be moved by the fingers, could not be extracted without cutting away the bronze and considerably enlarging the hole.

The castle of Sant' Elmo, as it is generally called, though more correctly Sant' Ermo, or Sant' Eramo, was first built, about the year 1290, by Charles II., the son and successor of the fierce conqueror Charles of Anjou. It was however enlarged and almost entirely rebuilt by the Emperor Charles V.; and when it was finished and frowned on the heights, and threatened destruction to the populous city that lies close at its feet,—and when their artillery bristled the strengthened walls of the Castello Nuovo and the tower of the Carmine, the Spaniards boasted that they had put a curb in his mouth, and would soon break in the *cavallo indomito* —the wild horse—which is the emblem and symbol of the Neapolitan people, and is borne in the city arms. And yet it was not so. Whenever their tyranny exceeded certain limits—whenever they dared merely to talk of the Inquisition,—the curb was snapped, the horse broke loose, and was as unmanageable as ever. The mass of the people being once roused, the Arpajas, the Mas' Aniellos, the Perrones, the Genovinos, and the rest of their leaders, cared little for the fortresses, to which they invariably beat the Spanish troops. In carrying on their works at Sant' Elmo, the Spaniards knocked down some Roman buildings, and cut up part of an ancient road that led over the hill of the Vomero to Posilippo, which latter beautiful spot, like Baiæ and Baoli, at a few miles distance, was literally covered and crowded with the villas of the Roman patricians. Fragments of this ancient road, paved with large and rather rough blocks of stone, are still to be traced here and there along the ridge of the hills between the castle and the cape or point of Posilippo. The dry moat round the fortress is broad and very deep, the volcanic tufo on which it stands being cut with the greatest ease. On the whole, the castle has a commanding situation, and an imposing air; but though quite equal to resist a *coup de main*, it could hardly stand a long and regular siege, for artillery placed on the Araniella, and other heights behind it, could breach its walls, and the whole hill could be cut up into trenches and undermined at a comparatively small expense of labour, the tufo being scarcely more difficult to cut than an old Gloucestershire cheese.

Close by the side of the castle, on the face of the hill, and fronting the glorious bay and the islands, and the coasts of Pompeii and Sorrento, stands the magnificent Carthusian Abbey of San Martino, which was originally built in 1325 by Charles, Duke of Calabria, the son of King Robert of Anjou, and father of the beautiful and unfortunate Joanna I., who in the course of her stormy reign greatly improved the church and the monastery. By the donations of successive sovereigns, and the legacies of wealthy subjects, this abbey became one of the richest establishments in Italy, and the monks of Saint Martin's were celebrated for their munificence, hospitality, and luxurious mode of living. In the Terra di Lavora alone, we have seen an almost incredible number of the finest farms and estates that once belonged to their house; but besides these they had property in nearly every other part of the kingdom. The popular notions about monastic luxury in the good old times, and about jocund abbots "rosy as their wine," which are misconceptions if applied too generally, seeing that many of the monastic orders were always poor, and of necessity abstemious, would, we fancy, be correct enough with reference to the Carthusian of this princely house. Many persons are yet alive who remember their pomp and state, and their glorious revellings, in which some of those persons have often partaken. But a mighty change, at which the very walls of the abbey might be astonished, has taken place there. The spacious building has been converted into a military hospital, and its beautiful marble-paved oriental-looking courts, its long echoing corridors are filled with moping invalids:—

Now the bell
Calls sickly soldiers to their scanty dinner;
And now through hall, refectory, and cell,
Glide slowly forms much sadder and much thinner.
—Oh! for the good old times—for them the Friars' dinner!

The estates were sequestered shortly after the French Revolution, and King Ferdinand even deprived the monks of their church-plate and jewels. After the French Conquest in 1806, the order, in common with all others that were wealthy, was suppressed, and the members of it who had lived in luxury, and fed sumptuously every day, were turned loose on the world to starve on a pension of about 10*l.* sterling per annum, which, in most cases, was very irregularly paid. The church is, however, still rich in works of art, and in beautiful and rare stones. Agate, amethyst, lapislazuli, sardonyx, chalcedony, and giallo antico are profusely lavished on the high altar. The twelve apostles, painted by Spagnoletto in his grandest manner, give sublimity to the nave; and the side-chapels offer fine specimens of Luca Giordani, Il Calabrese, and other masters. But the great attraction—the capital feature in this way, is a crucifixion by Spagnoletto, which is most advantageously placed at the end of a long tiring-room, off the church. This large and truly sublime picture has not attracted all the attention it merits. We have passed, at different times, many hours before it, and can hardly remember anything more solemn and impressive—any picture where force of expression or the magical power of *chiaro 'scuro* has been carried further.

From the windows of the extensive abbey, and from the terraces in front of it, the prospect, which includes a bird's-eye view of the vast and curious city of Naples, is one of the finest that can be anywhere found on the face of this beautiful and varied earth.

ERRORS AND SUPERSTITIONS ARISING FROM FALSE ASSOCIATIONS.

A great number of popular errors, as well as individual errors of judgment, of every description and on every subject, from the high investigations of science to the common occurrences of daily life, proceed from a disposition which prevails in most minds to an extent which few would be ready to acknowledge—that of assuming that a connexion more or less near must subsist between things or circumstances which, however naturally dissimilar, happen to be of simultaneous occurrence, or to be accidentally placed in a singular apposition to each other. All science has, in the course of time, been encumbered with a vast number of erroneous conclusions, arising from this habit of supposing that circumstances thus associated by accidents of time or place are mutually the effects and causes of each other. It is one of the great labours of modern inquirers to clear away the errors in science which have arisen from this source; for it is the high distinction of modern philosophy that it tries all things and assumes nothing; and it is more to the observance of this principle than to anything else that we are indebted for the highly-improved state of science in the present day.

Every reader will recollect having read numerous instances of eclipses, comets, earthquakes, and other phenomena which have occurred on the birth-days or death-days of the "great men" of history—that is, generally the men who have poured out human-blood "like water spilled upon the ground that cannot be gathered up again." In some of these cases the belief is expressly avowed that the sun was darkened, or the earth was convulsed, because the "hero" was born or died; and although in modern times this is not exactly said, yet the grave and careful enumeration of such circumstances indicates a feeling that there was some connexion or other between them and the history of the man. Whether thus stated or not by the narrator, a great number of people who heard or read the fact of the phenomena thus occurring, would not fail to consider them as indications of Nature's concern at the contemporaneous event.

From the influence of a similar feeling, such appearances at a peculiar crisis, or on the eve of an important action, are noticed as connected with or ominous of the event. History descends to notice even the appearance of a bird on the eve of battle. We have all read of the appearance of the eagle, as an omen of victory to the Roman armies. And we need not go back to early times. Take the following instance from a book published within these few weeks. It is the account published by the Baron de Los Vallos, of the 'Career of Don Carlos,' whose entrance into Spain after his escape from England is thus signalized:—"At the moment of our setting foot in the Spanish territory, an eagle flew out of one of the surrounding rocks, rose above our heads, and directed its flight towards Navarre. 'This is a good omen,' said I to the king, pointing out to him that symbol of victory which seemed to have been placed as a sentry to welcome the return of the King of Spain to his dominions." A greater number of people than at any former time will now smile at this puerility; but the serious notice of such a circumstance by an educated man in a grave historical document, is a curious instance of the continued existence of that principle of error which we are attempting to illustrate. The absurdity is not lessened by the fact that eagles are not very uncommon in the Pyrenees; and whether the circumstance had any real weight in the minds of Don Carlos and the Baron or not, the latter must have calculated that there were minds on which it would have effect. These instances merge into superstition, as indeed do a large proportion of the errors arising from this source. The following is a more familiar example of the manner in which the principle operates.

It was observed that rooks descended in large numbers on newly-sown corn-fields, and combining their appearance with the recent sowing, it was not doubted that they were attracted by the grain, and doleful were the complaints of their depredations, and ruthless was the war waged against them; when all the while the poor birds were actually benefiting the future crop, by destroying the grubs which the recent processes had turned to the surface. Here, in a matter where a very slight degree of attention would have been sufficient to ascertain the truth, men were content to rest in what seemed to them an obvious conclusion, but which occasioned no small anxiety to themselves and great destruction to most useful races of birds.

Another "modern instance" is quite fresh, having offered itself to our notice in a newspaper* over which we have looked since commencing this article. This it is:—"On Friday week, as Duckham, belonging to the lace manufactory of John Heathcote, Esq., M.P., at Tiverton, was at night-work therein, one of the firemen complained that something had clogged the wheel. 'Ah!' said the poor fellow, 'that's a sign of fire.' 'Why, Sam,' said the foreman, 'the gas went out just now; what's that a sign of?' The reply was, 'death;' and immediately clasping his hands, he expired without a groan." If we consider the philosophy of this melancholy anecdote, we perceive that simultaneously with the information to which he thus replied, he felt within himself that the sentence of death had gone forth against him; and by a sudden act of mind connected the two circumstances together; not perhaps that he considered his death as the consequence of the extinction of the gas-lights, but that the gas-lights had been extinguished to furnish an omen of

* 'Atlas' for August 23.

death. But we notice this anecdote not so much for the sake of expatiating on the impression which this poor man entertained; but because to our minds it illustrates the influence which the diffusion of knowledge has in preventing additions from being made to the existing stock of popular errors. We are persuaded that fifty or a hundred years since such a circumstance as this would have been sufficient to have stamped the extinction of gas in a building with the character of being a certain omen of the death of one of its inmates; just in the same way that the spontaneous extinction of a candle is now so considered in some parts of the country. But in this day fifty such instances would not be adequate to produce this effect on people's minds. They may wonder at the circumstance as a remarkable event, a curious coincidence, but will not dream of establishing any connexion between the life of man and the flame of a gas-burner.

A very remarkable instance of the false association to which the preceding illustrations refer, is afforded in the 'History of the Rose of Jericho and the Glastonbury Thorn.' The following facts on the subject are principally derived from Sir Thomas Brown's book on 'Vulgar Errors,' and Brand's 'Popular Antiquities.'

The reputation of the rose of Jericho was, that it flowered every year just about Christmas Eve, and it was concluded that its doing so was in honour of our Saviour's birth. It is to be observed, however, that this "rose" was no rose at all, but a thorny shrub bearing small white flowers very different from those of the rose. Bellonius, in his observations on the plants of Jericho, sets down the whole affair as a monkish imposture; and Sir Thomas Brown undertakes to explain how the imposition was or might be effected. It is a property of this plant that even when it is dry, if it imbibes moisture it will dilate its leaves and expand its contracted flowers that seemed dried up; and this is true, not only when it is growing, but in some measure after it has been gathered and dried. "Which quality being observed," says Sir Thomas, "the subtility of contrivers did commonly play this show upon the eve of our Saviour's nativity, when by drying the plant again it closed the next day."

The reputation of the Glastonbury thorn corresponds in almost all points with that of the rose of Jericho; indeed it seems to be the same or nearly the same plant with a different name, and wherever its property of blossoming about Christmas Day was first observed, it was probably transplanted from thence for superstitious uses by the monks of Glastonbury. Sir Thomas Brown speaks uncertainly about this plant, but seems inclined to allow that the phenomenon it exhibited might be natural; and if so, surely he might have extended the same allowance to the rose of Jericho, or he might have combined the two, saying, that artificial means were employed to render it accurate to the precise day, which naturally it is not. There is now no doubt that the early blossoming of this thorn is owing to natural causes.

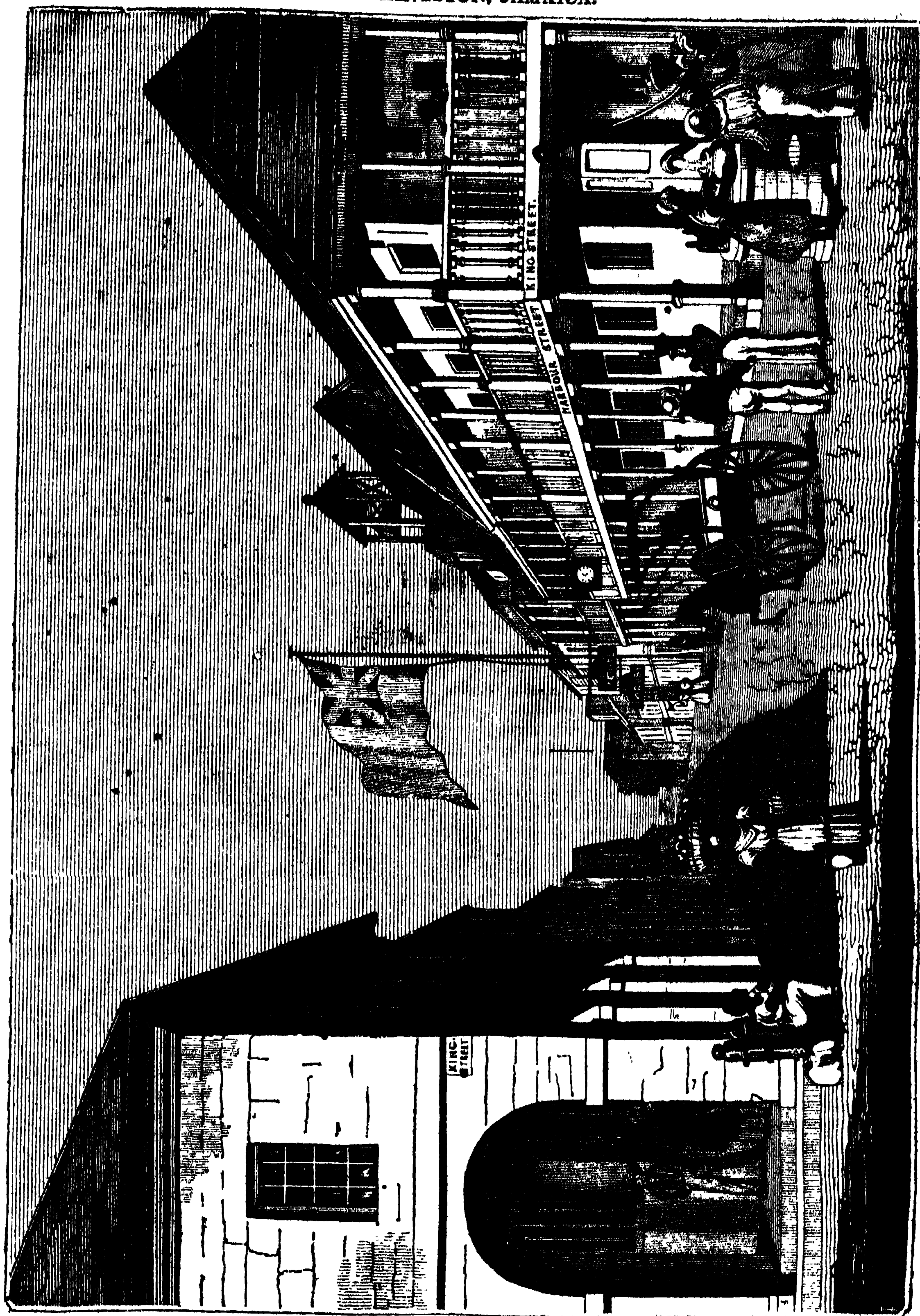
The thorn-tree stood on an eminence to the south-west of the town of Glastonbury, where a nunnery, dedicated to St. Peter, was in after-times erected. The eminence is called Weary-all Hill; and the same monkish legend which accounts for the name of the hill states also the origin of the thorn. It seems that when Joseph of Arimathea, to whom the original conversion of this country is attributed, arrived at this spot with his companions, they were weary with their journey and sat down. St. Joseph then stuck his stick in the ground, when, although it was a dry hawthorn staff, it took root and grew, and thenceforth commemorated the birth of Christ in the manner we have mentioned. This rendered its blossoms of so much value in all Christian nations, that the Bristol merchants exported them as things of price to foreign lands. It had two trunks or bodies until the time of Queen Elizabeth, when a puritan cut down one of them, but left the other, which was about the size of an ordinary man. The reputation which the thorn still retained, notwithstanding the change of religion, may be estimated by the fact that King James and his Queen, and other persons of distinction, gave large sums for small cuttings from the original tree. During the civil war, in the time of Charles I., what remained of the thorn was cut down; but plants from its branches are still in existence in the gardens of the neighbourhood, and in different nurseries over the kingdom.

When the new style was introduced in 1752, the alteration seems to have been very generally disliked by the mass of the people: the use which was made of the Glastonbury thorn to prove the impropriety of the change is not a little curious. The alteration in the Christmas Day was particularly obnoxious, not only as disturbing old associations, but as making an arbitrary change from what was considered the true anniversary of the birth of Christ*. In several places, where real or supposed slips from the Glastonbury thorn existed, the testimony of the plant against the change was anxiously sought on the first Christmas Day under the new style. As the special distinction of the thorn arose from its supposed connexion with the great event commemorated on that day, it was argued that it must indicate the true anniversary, and that its evidence would be conclusive on the subject. The event of one of these references (at Quainton in Buckinghamshire) is thus recorded in the 'Gentleman's Magazine' for 1753:—"Above 2000 people came here this night (December 24th, 1752, N.S., being the first Christmas Eve under the new calendar) with lanthorns and candles, to view a black-thorn which grows in this neighbourhood, and which was remembered (this year only) to be a slip from the Glastonbury thorn; that it always budded on the 24th, was full-blown the next day, and went off at night. But the people, finding no appearance of a bud, it was agreed that December 25th N.S., could not be the right Christmas Day, and accordingly refused going to church or treating their friends as usual. At length the affair became so serious that the ministers of the neighbouring villages, in order to appease the people, thought it prudent to give notice that the old Christmas Day should be kept holy as usual." The slips of the thorn seem to have been everywhere unanimous in this opposition to the new style. This fact is thus alluded to in an amusing article in the 'World:'—"It is well known that the calendar was enacted by Pope Gregory XIII., and that the reformed churches have, with a proper spirit of opposition, adhered to the old calculation of the Emperor Julius Cæsar, who was by no means a Papist. Near two years ago the Popish calendar was brought in (I hope by persons well affected). Certain it is that the Glastonbury thorn has preserved its inflexibility and observed its old anniversary. Many thousand spectators visited it on the parliamentary Christmas Day: not a bud was to be seen! On the true nativity it was covered with blossoms. One must be an infidel indeed to spurn such authority."

This devoted belief in the existence of a designed connexion between a natural phenomenon and a particular anniversary affords throughout a very rich specimen of the class of errors which we have endeavoured to illustrate.

* It will be recollected that, so far as this point is concerned, the change consisted in the omission of eleven days in 1752. Following September 2, eleven days were thrown out of account; so the next day was not September 3, but September 14. Consequently Christmas Day, though nominally the same, was held that year and since on a day which would have been January 5 if the calendar had not been disturbed.

KINGSTON, JAMAICA.



[Harbour Street, Kingston, Jamaica.]

Kingston is the principal commercial town, and actual capital, of Jamaica, although the seat of government is at S. Jago de la Vega, or Spanish Town, about ten miles inland. Kingston was founded in 1693, the year after that most awful earthquake by which the island was shaken to its centre, and the town of Port Royal was destroyed with 2000 of its inhabitants. The survivors thought it would be better to establish themselves elsewhere, and the site of Kingston was selected as most suitable for their purpose.

Kingston is situated upon a gentle slope, which is about one mile in length, and is bounded on the south by a spacious basin through which all vessels must advance under the commanding batteries of Port Royal. The extended inclined plane, upon the verge of which Kingston stands, is enclosed on the north by the loftiest ridge of the Blue Mountain chain, termed Liguanea, which rises to the height of near 5000 feet at the distance of four miles behind the town. This ridge forms a semicircle, which terminates in the east at the narrow

defile of Rock Fort, from whence a long neck of land stretches far away to Port Royal, forming the southern barrier of the excellent haven. The semicircle terminates in the west at a narrow pass, upon the edge of an impracticable lagoon, from whence the main-land sweeping round Port Henderson and the projecting salt-pond hills secure one of the most superb mercantile havens in the world, and in which the whole navy of England might commodiously and safely ride. The entrance of this harbour is defended on the east point of the delta of Port Royal, by the formidable ramparts of Fort Charles, and on the west side by the cannon of Rock Fort, while the low raking shot from the sixty pieces of large cannon on the long, level lines of Fort Augusta would blow a hostile navy out of the water before it could pass the narrows to get up to the anchorage at Kingston. To the above statement, which incorporates the accounts of Mr. Montgomery Martin and Captain Basil Hall, the latter, a most competent judge on such points, adds, that the haven is completely land-locked; and, even independently of its fortifications, may be deemed almost impregnable towards the sea, as it would be little short of a miracle for an invading squadron to wind its way through the labyrinth of shoals and reefs which lie off its mouth, and among which the channels are so narrow and intricate, that the sinking of a sand-barge would effectually block up all ingress.

The situation of Kingston is highly favourable, rising from the sea with sufficient acclivity to give it the command of the sea-breezes, which blow regularly during the greater part of the year, and also to afford a view of the ships coming down the coast to the harbour of Port Royal and up to the town. Dr. Madden describes two views of the town—one from the mountains and another from the sea, which exceed anything that can be imagined by one who has not seen Constantinople from the sea-side, and Jerusalem from the Mount of Olives. The distance between the town and the mountains is pleasingly diversified with country residences, and, near the mountains, with sugar-estates. The dryness of the soil on which the town stands, together with the slope, prevents any inconvenience from the lodgment of water in the heaviest rains, while the town is well ventilated by the daily sea-breeze. But although the slope prevents any water from stagnating in the town, it is attended with one great inconvenience, for it admits an easy passage to great torrents, which collect in the gullies, at some distance towards the mountains, after a heavy rain, and sometimes rush so impetuously down the principal streets as to make them almost impassable by wheel-carriages, and carry accumulations of mud and rubbish to the wharfs. The front foundations are undermined by the same cause, in consequence of which many of the houses have a shattered appearance, which in some measure gives to the town the aspect of a ruined city.

The original plan of the town, as drawn out by Colonel Lilly, an experienced engineer, was a parallelogram, one mile in length by half a mile in breadth, regularly traversed by streets and lanes, crossing each other at right angles, except at the upper part, where a large square was left; but the town has now extended so far beyond the limits assigned it in this plan, that the square is at present nearly in the centre of the city. The streets in Lower Kingston are long and straight, and laid out with a regularity which Martin compares to that of the new town at Edinburgh. Here, of course, the comparison ends. The houses are generally built of brick, and are two stories high, having the fronts shaded by a piazza below and a covered gallery above. The English and Scotch churches are, perhaps, the most elegant structures in the town, particularly the former, which is built on a picturesque spot, commanding a splendid view of the city, the plains around it, the amphitheatre of mountains, and the noble harbour. The church itself is a large and elegant building, with four aisles, and having a well-constructed tower and spire, which form a great ornament to the town. The other public buildings are the court-house, a free-school, a theatre, the barracks, the public jail, and an asylum for deserted negroes.

Captain Basil Hall, in his 'Tom Cringle,' has described the town in his usual happy manner. We shall therefore give his account of it in his own words. He says—

"The appearance of the town itself was novel and pleasing; the houses, mostly of two stories, looked as if they had been built with cards, most of them being surrounded with piazzas, from ten to fourteen feet wide, gaily painted with green and white, and formed by the roofs projecting beyond the brick walls or shells of the houses. On the ground-floor, these piazzas are open; and, in the lower part of the town, where the houses are built contiguous to each other, they form a covered way, affording a most grateful shelter from the sun on each side of the streets, which last are unpaved, and more like dry water-courses than thoroughfares in a Christian town. On the floor above, the balconies are shut in with a sort of movable blind called "jealousies," like large-bladed Venetian blinds fixed in frames, with here and there a glazed sash to admit light in bad weather, when the blinds are closed. In the upper part of the town the effect is very beautiful, every house standing detached from its neighbour in its little garden, filled with vines, fruit-trees, and stately palms and cocoa-nut trees, with a court of negro-houses and offices behind, and a patriarchal-looking draw-well in the centre, generally overshadowed by a magnificent wild tamarind."

The same writer describes a walk through "the burning, sandy streets" as an exceedingly unpleasant affair, particularly as one is almost blinded by the reflection from them. He also favours us with an introduction to the interior of the houses, informing us that carpets are not in use in Jamaica; but the floors, which are often of mahogany, are beautifully polished, and shine like a well-kept dinner-table. They are, however, attended with the disadvantage of being very slippery, and require wary walking till one gets accustomed to them.

Accidents from fire rarely occur in Kingston, the kitchens being detached buildings, and there are wells and pumps in the principal streets. Fire-engines and leather buckets are also kept in the court-house, and the inhabitants are obliged to keep a certain number of these buckets proportioned to the value of their houses. The fate of Port-Royal, of Bridge Town in Barbadoes, and of St. John in Antigua, awfully inculcated the necessity of the strictest precautions against the ravages of accidental or incendiary fires.

In the hottest part of the year the thermometer at Kingston sometimes rises as high as 96°, and is seldom below 76°. It is generally three degrees warmer than Spanish Town, and the air is less elastic, but it is not equally subject to thunder-storms. Notwithstanding the great heat of the climate, Bryan Edwards assures us "on the information of a learned and ingenious friend, who kept comparative registers of mortality, that since the surrounding country has become cleared of wood, the town is found to be as healthful as any in Europe." The market-place of Kingston is in the lower part of the town, near the water-side. It is plentifully supplied with butchers' meat, poultry, turtle, fish, fruits, and vegetables. In the last class it not only offers the products usually found in a tropical country, but also European vegetables, which one would hardly expect to find there, such as pease, beans,

cabbage, lettuce, cucumbers, artichokes of the finest kind, carrots, turnips, radishes, onions, leeks, and small salad. These are brought from the Liguanea mountains, and are all excellent of their kind. Here also are strawberries, not inferior to those produced in an English garden; and very good apples, but in general gathered before they are ripe. Large quantities of the finest pine-apples are also produced, particularly on the Long Mountain. "In short," says the enraptured historian of Jamaica, "the most luxurious epicure cannot fail of meeting here with sufficient in quantity, variety, and excellence for the gratification of his appetite all the year round." For these advantages, however, it seems that the said epicure must pay a good price. Dr. Madden, the most recent writer on Jamaica, believes it to be the dearest country in the world.

There is a sad want of statistical facts, not only concerning Kingston, but Jamaica in general. The population of the city is roundly estimated at 35,000, of whom 10,000 are whites, 17,000 negro apprentices (lately slaves), and the rest creoles and free people of colour. Kingston was incorporated as a city in 1803; and is governed by a mayor, twelve aldermen, and twelve common-councilmen.

ENGLAND, AS DESCRIBED BY AN EASTERN TRAVELLER SEVENTY YEARS AGO.

There are perhaps few books more generally interesting than those which contain the observations of strangers on our own country. They are also useful; for while we make allowance for some of the prejudices and distorted views of the stranger, we are obliged in some degree to neutralize our own, and in this way obtain a medium estimate more profitable, if less agreeable, than that unmitigated complacency with which we are but too much accustomed to regard ourselves and the things that belong to us. Perhaps the interest, if not the instruction, which such works afford, is proportioned to the distance of the writer's country from our own, and to the completeness of the difference between our institutions and those to which he has been accustomed, and between his own personal and mental habits and those which are brought under his notice. From these circumstances the observer is led to state the differences more broadly, and to express his views more strongly than a person of any neighbouring nation would think of doing; and we thus obtain a singularly-curious view, not only of the country which he describes, but of that to which he himself belongs.

These remarks have been suggested by a perusal of a book entitled, '*Shigurf Namah-i-Velaët*; or, Excellent Intelligence concerning Europe: being the Travels of Mirza Itesa Modeen in Great Britain and France.' The book was written in the Persian language by a Mohammedan man of letters of India, and was translated into English, about eight years since, by Captain Alexander. The Mirza was in this country about seventy years since, and some of his observations are therefore not now applicable; but the interest is not the less on that account, as we are thus, through a very agreeable medium, made acquainted with some points of difference between the existing race and that of our fathers, while we are enabled to smile the more freely when we know that we are not exactly laughing at ourselves.

Mirza Itesa Modeen having in his youth acquired facility in writing and reading Persian from accomplished teachers, entered the service of the English, in which, in various capacities, he remained for several years. Ultimately a military officer (Capt. S.) was appointed to proceed to England with a letter and presents to the king from the great mogul, Shah Alum; and as it was necessary that he should be accompanied by a moonshee* on the part of the Emperor, Itesa Modeen was selected for the purpose. Capt. S. and the Mirza accordingly proceeded to England, although, before their departure, their official business was undertaken by Lord Clive himself, who was then about to visit this country, and soon after did so.

The remarks of the Mirza upon the things he observed during the voyage are occasionally very curious and characteristic; but we pass them by to leave larger space for noticing that part of his work which relates to England. His first impressions of London were gratifying. He says:—"I was highly pleased with London, and the English were likewise much gratified with seeing me. Notwithstanding I was neither a man of science nor abilities, yet they treated me kindly. Truly I am unable to praise sufficiently the worth and virtues of Europeans, for they esteem a traveller, or an inhabitant of a foreign country, dearer to them than their own life, and take great pains to win the confidence of strangers, and greatly patronised me."

One cause of the attention which he attracted arose from his dress and appearance. The people of this country, according to his account, and he is probably in the right, had never before seen a person from India of his appearance, their knowledge being confined to Lascars or Hindostanee seamen. The neat and gaily-coloured flowing dress worn by so respectable a person as the Mirza was therefore new to them, and, together with his comparatively† light complexion, led them to conclude that he must be a great man in Bengal. When he arrived in London it was the warm season of the year, and the Mirza used to dress in his long, light pelisse, with a turban on his head, a sash tied round his waist, and a dagger in his belt, going thus abroad "after the manner of a man of Hindoostan." Many people were much pleased with his costume, while others considered it too feminine, and could not indeed be persuaded that it was not properly a female dress. He says:—

"Whenever I attempted to go abroad crowds accompanied me, and the people in the houses of the bazaars‡ thrust their heads out of the windows and gazed at me with wonder; and small and great, thinking I was some extraordinary production, ran from the lower stories of the houses to the second and third floors, and foolishly cried out, 'Look, look, a black man is walking along!' and the people, heedlessly running down in crowds from the upper stories, came to the doors and stared at me, and were astonished." He adds:—"After two or three months had passed in this way, every one entered into friendship with me, and the fear which the common people had of me all vanished."

London was certainly a much less wonderful place seventy years ago than it is now. Perhaps there is no city in the world which has undergone so much improvement within an equal period of time, particularly in its western portion. Yet London was wonderful even seventy years ago; and, indeed, the great shows of the town were the same then as they are now. There was the Tower, St. Paul's, Westminster Abbey, and many of the public buildings which still form the principal ornaments of the metropolis. The tendency of the improvements which have since taken place has rather been to extend an

* Translator, interpreter, secretary.

† The Mohammedans of India being mostly descended from Persians and Afghans, are not black like the Hindoos, but of a brown or olive complexion, more or less dark according to their rank in life and degree of exposure to the sun.

‡ Here he must mean the streets in which the ground-floors of the houses are occupied as shops.

air of comfort and luxury through our streets and squares than to erect structures individually great. When, however, we hear Itesa Modeen speaking in the following terms, we must recollect that London was the first great European city he had ever seen or ever did see:—

"What can I say in praise of the city of London?—for on the whole face of the earth there is no other so large and beautiful. My tongue wants ability to describe in a fitting manner the excellence of that city." The Tower is the first wonder of this wonderful city which he undertakes to describe. In the course of his description the following capital specimen of a "traveller's tale" occurs. "One gun is very large: in length it is sixteen cubits, and its diameter is such that if a person sits down on one side of it he will not be able to see a person sitting on the other side. The muzzle is so wide that a middle-sized tailor can sit in it and work." His account of St. Paul's concludes with the remark:—"Truly it was a heart-opening and pleasure-inspiring fabric. There are no stone buildings either of the strength, height, or size of this in Hindoostan, with the exception of a few of the domes of Bejapoor." To this the translator subjoins the following note:—"The mausoleum of Sultan Mahmood Shah, which I have seen, is surmounted by an immense cupola, and is equal in height to St. Paul's; in it there is also an excellent whispering gallery."

Naturally enough, the Mirza did not much admire the king's palace (St. James's), and describes it as resembling the houses of merchants. The queen's palace he, however, considered very handsome; but he does not appear to have seen the interior of either. His general description of the city is so curious that we give it entire, only taking the liberty of transposing the parts a little, so as to render the account more distinct.

"The streets of the city are spacious. On both sides are houses, three and five stories in height, which are uniform, resembling the Calcutta barracks. They are neither crooked nor deviate from a straight line, therefore strangers and ignorant people are apt to commit mistakes. To prevent errors, the owner of a house causes his name to be engraved on a brass plate, which is affixed to the upper part of the outer door. Artisans and tradespeople have the sign of their occupations painted on a board attached to their doors: as, for instance, if it be a shoemaker, there is the figure of a shoe;—if a baker, the figure of a loaf;—if a fruiterer, different kinds of fruit."

That which is here said on the way in which houses and shops are distinguished is scarcely now applicable. Shop-signs have almost entirely disappeared, and private houses are rarely distinguished in any other way than by being numbered, except among persons in business and professional people, to whom it is of importance that their residence should be easily discovered by strangers. The present plan of considering the number a sufficient distinction seems to denote that people have ceased to care what mistakes "strangers and ignorant people" may commit. The Mirza proceeds:—

"The streets are paved with stone, and their breadth is such that three carriages are able to pass one another; besides, for foot-passengers on both sides of the streets, there is a space of two yards and a half in width. Horsemen and quadrupeds are not permitted to go upon the pavement, which is set apart for foot-passengers and gown-dressed ladies. On both sides of the street, with an interval of thirty cubits, posts are erected near the walls of the house, and of the height of eight or nine cubits; on every post a glass vase is suspended in an iron ring, and in every district of the city men are appointed; one of these during the day cleans the glass vases, and goes along placing a wick and oil in them; the other in the evening comes with a torch in his hand, and quickly lights the lamp, and all at once, to the distance of an arrow's flight, the streets of the bazaars are lighted up and gleam; to the sight the light is considerable. In this way the whole city and streets are lighted up; the people walk about until the second watch of the night, and they have no need of torches or lanterns. It is customary in Europe for noblemen and princes to walk on foot both during the night and day, and they do not find it necessary to be attended by grooms, servants, or torch-bearers."

As Asiatic towns are not lighted at all, and as London was, even seventy years ago, the best-lighted city of Europe, we can understand the approbation with which strangers generally spoke of the light by which our fathers walked in the night time, although we are now enabled to look back upon that light as upon the things that belong to darkness. A person, however, who at night looks down from the blaze of Fleet Street upon the "dim religious light" of Serjeants' Inn (which continues to be illuminated on the old plan), will be slow to admit that there was no need of lanterns under the oil and wick system. They were, in fact, greatly needed; and within our own recollection it has been a common thing for people to go about the streets with lanterns in their hands, or preceded by persons bearing lanterns for them. The Mirza next discourses of the houses:—

"The generality of the houses in London are of three and five stories. In this country (Bengal) the rooms are lofty, in order that there may be a current of air in hot weather; but in consequence of the cold and frost in Europe, they are low. The floors are wooden, the ceilings are painted white, and the walls are covered with coloured paper. When the wind blows the walls of the houses shake, and strangers are afraid of their falling; but there is no cause for fear, though I myself was alarmed. * * * The people of condition inhabit the first and second floors of the houses; the fourth floor is appropriated to servants; the ground-floor is rented as a shop. In the shops are glass-cases, in which the different articles are arranged."

In this he dwells chiefly on those points in which the houses were distinguished from those of his own country; "wooden floors," for instance, not being used in India.

After a stay of three months in London, the Mirza was taken to Oxford, where he was treated with much attention by the learned Orientalist Dr. Hunt, and by Mr. (afterwards Sir William) Jones. They showed him the Persian and Arabic manuscripts in the libraries of the University; and he says that, in order to examine him and try his abilities, they put different books into his hands, and to the best of his ability he explained their meaning, which, he seems to say, had not before been well understood. He says indeed, towards the end of his book, that there was no person in England who could read or write Persian. But there were many who desired to learn; and in the end he was himself importuned to stay in England as a teacher of that language, with the assurance that he might realize a handsome income in this way. But he declined most decidedly, saying, "Poverty in my own country is much better than wealth in this."

Here we must take leave of the Mirza for the present, but shall probably consider his observations upon the institutions, character, and customs of the English of that day, sufficiently interesting to claim another paper from us.

⁎ The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

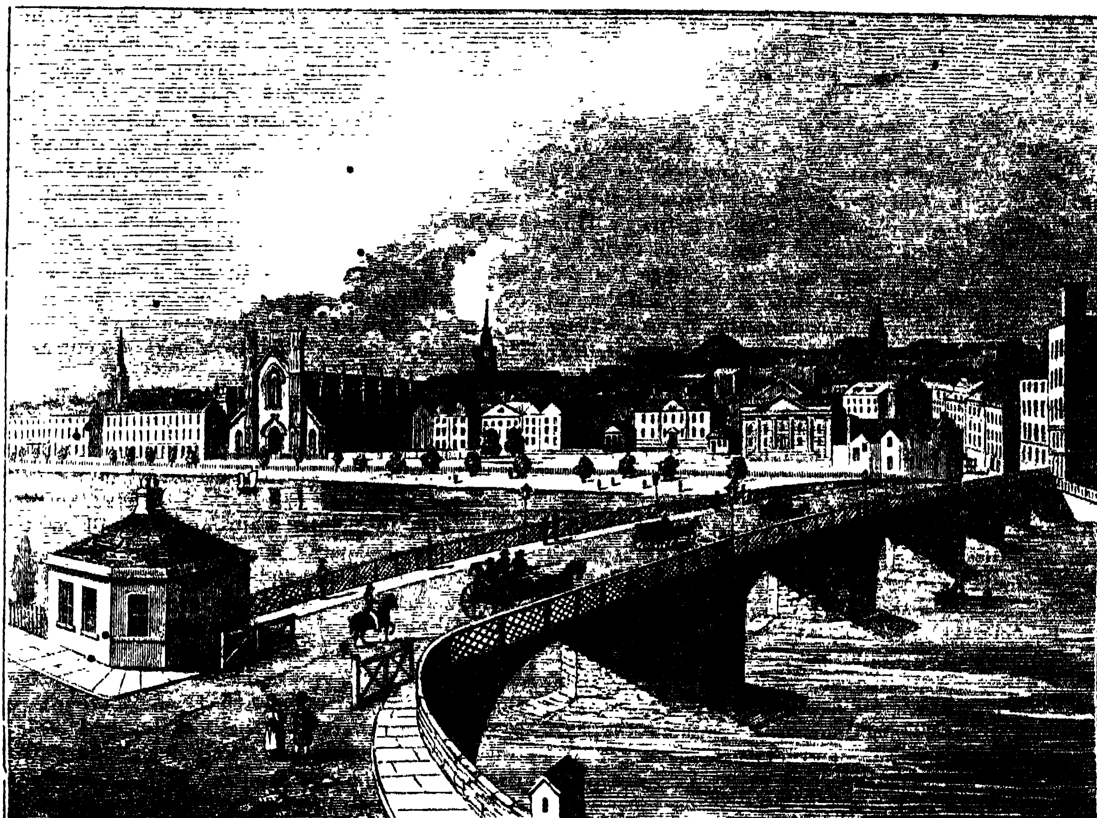
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GLASGOW.



[Glasgow, with Stockwell Bridge, from the South Bank.]

Etymologists seem to have been rather puzzled about the signification of the name of Glasgow. M'Ure, the first historian of the town, says that the word signifies in Gaelic a grayhound, and also a gray-smith; subsequent historians take no notice of the grayhound, but adopt the gray-smith, and conjecture that a person of this description, eminent in his profession, had taken up his residence in the place, and that in compliment to him it received this name. Others again suppose that, as the word also signifies *a dark glen*, it alludes to the glen at the east end of the church, where stood the cell of St. Kentigern, of whom more hereafter. We confess that none of these etymologies satisfies us, and we will therefore afford our readers an opportunity of making a better for themselves. In Shaw's 'Gaelic Dictionary,' the word *Glas* has the various significations of *grey*, *green*, *pale*, *wan*, *poor*; and we see it thus used in combination, as *glasghort*, a green plot; *glasmhaigh*, a green field. The other portion of the compound does not occur in Shaw; but on turning to Jamieson's 'Etymological Dictionary of the Scottish Language,' we find him considering the word *Gow*, as allied to the old Teutonic word *gouw*, a country or region, and hence *gau*, forms the termination of some names in Germany. Now, by thus combining either of the epithets *grey*, *green*, *pale*, *wan*, *poor*, with the word *place*, *country*, or *region*, it seems to us that a more reasonable etymology may be obtained, according to the reader's preference, than either of those which we have adduced.

Like other towns in many parts of the island, Glasgow seems indebted for its origin to its ecclesiastical establishment, or place of worship, which existed on or near the spot which the High Church now occupies. This seems established by the fact that in the early periods of the Scottish history, the town, then very inconsiderable, was almost exclusively possessed by the clergy and by their dependents connected with the establishment in question. It also seems that all the houses which composed the town in those early times were situated upon the high ground in the immediate vicinity of the site of the cathedral, which served as the nucleus of the town, and from which, in the course of time, its buildings extended down the hill and over the gently-ascending ground between the hill and the river. The hill still continues to form a marked distinction between the ancient and modern portion of the city.

The ecclesiastical establishment to which we have alluded was founded here in 560 by St. Mungo, or Kentigern. To this the origin of the place is attributed, the sanctity of this holy person's residence naturally inducing religiously disposed people to take up their abode near him. He died in 601, and was buried at

the east end of the ground where the church now stands, and where his tomb is still shown. He was succeeded by his disciple Baldrede, but of the time of this person's death, of the names of his successors, and of the state of the place, there are no accounts that can be relied on for nearly 500 years subsequent. It seems that, previously to 1100, the church was a very mean building, constructed chiefly with timber, and that it had at that time gone to decay.

When David I. ascended the throne of Scotland in 1124, he founded, or, as some say, re-founded the see of Glasgow, endowed it with ample revenues, and bestowed the bishopric upon John Achaius, a man of great learning, who had formerly been his tutor, and was then his chaplain. To this prelate the town is indebted for the foundation of its stately cathedral, which he consecrated in 1136, in the presence of his royal pupil and king, who took the opportunity of making an addition to the previous endowment. Joceline, the third bishop after Achaius, procured in 1174, from William the Lion, a charter, erecting Glasgow into a burgh royal, and also another for holding an annual fair of eight days' duration. "From this time forth," says M'Ure, "the place had always something like the face of business." It is in 1268 that we first find the town governed by a provost and baillies, having then a distinct seal from that of the bishop. To entitle the place to privileges of this sort, it must previously have become a considerable village. It doubtless also obtained still further increase about this time in consequence of a papal bull enjoining the whole inhabitants of the diocese to visit the cathedral, as their mother church, at least once every year*. The same Bishop Joceline enlarged and adorned the church. M'Ure says that he rebuilt it of larger size and greater splendour than before, seeming to infer this from the fact that the church was then re-consecrated; but we believe this ceremony was always considered necessary where a church was so altered or enlarged, that ground not previously consecrated was brought within its limits.

We are not, however, to exaggerate the effect of these circumstances in accelerating the progress of the town to consideration; for so long afterwards as 1357 it was not of sufficient consequence to be named among the cautionary towns assigned to Edward of England for the ransom of David II. Previously to this date, however, Glasgow had been the scene of some stirring incidents in the conflict between Edward I. of England and the party of Bruce. Edward's plans having been much opposed by Robert Wishart, Bishop of Glasgow, who was one of the lords of the regency appointed on the death of Alexander III., he was seized by the English King's order, and kept in prison until after the battle of Bannockburn.

Meanwhile Edward, who had possession of the chief towns and fortresses of the kingdom, took it upon him to appoint a person named Beck to the bishopric, without the concurrence of the Pope, who was friendly to the independence of the Scottish church. While Beck was at Glasgow, Edward formed a plan of calling a court of justice there, and another at Ayr, of the principal opposing barons, whose destruction, when thus convened, it was hoped to effect. The plan partly succeeded at Ayr, but Wallace hastened with 300 horsemen to Glasgow, with the view of defeating its execution at that place. He marched from Ayr during the night, and arrived about nine in the morning at the (then wooden) bridge of Glasgow. After crossing the river he drew up his little band on the site of the present Bridgegate Street, and formed it into two divisions, one under Wallace and the other under the Laird of Auchinleck, and the word was given, "Bear up the Bishop's tail!" In the expectation that the English general, Lord Percy of Northumberland, would dispute the approach to the Bishop's Palace, Auchinleck's division, consisting of 140 men, took a circuitous route with instructions to fall upon the rear of the English, while Wallace himself marched directly up the High Street to meet the enemy, whose force amounted to about 1000 men, arrayed in armour. They met near where the college now stands, and while the action was doubtful, Auchinleck, by a forced march, suddenly made his appearance in the rear of the English, and in the surprise succeeded in dividing their column. This was no sooner perceived by Wallace than he rushed to the spot where Percy was, and with one stroke of his broad-sword cleft his head in two. The rout of the English then became general, and Bishop Beck himself did not deem it prudent to remain behind.

From this time until the middle of the fifteenth century the minute historians of Glasgow find no events of greater importance to record than the substitution of a stone tower to the cathedral for the previous wooden spire, which was destroyed by lightning in 1387,—the wooden bridge also having, some years before, been replaced by one of stone; and that a mint-house was erected in the Drygate Street, in the time of Robert III., at which coins were struck. The erection of the bridge is stated to have had the effect of occasioning the new buildings that were added to the town to be extended in the direction towards it. Its increase must, however, have been very slow; for at the second great epoch of its history, which occurred in 1450, the number of inhabitants did not exceed 1500.

A new impulse was given to its increase and prosperity at the period mentioned by the establishment of a university by Bishop Turnbull, whose interest at Rome enabled him to obtain a bull for the purpose from Pope Nicholas V. In this the university of Bononia (Bologna) in Italy is mentioned as the model of the new establishment, and the bishop himself is constituted chancellor. Nothing that had previously been done contributed so much to the extension and improvement of the city as the establishment of this seat of learning. The population necessarily increased, and building was carried on with proportionate alacrity; so that, in less than a century from that time, the High Street was filled up down to the Cross, and the three other great streets—the Trongate, Gallowgate, and Saltmarket streets—were formed; to make which intelligible to those who are strangers to the place and have no access to a plan, we may observe that the town is principally intersected by two great streets, which cross each other at right angles; the first, but not now the principal of the two, extends north and south from the cathedral to the Clyde under the several names of Saltmarket, High Street, Kirk Street, and Castle Street, and measures in its whole length three-quarters of a mile, thirty-four poles, and three yards. The other great street, which intersects the former, extends east and west parallel to the Clyde, and is in length a mile and a half, one furlong, fifteen poles, and two yards. This admeasurement, which determines the present length and breadth of the city, comprehends a greater extent in the street east and west than was occupied at the period in question, although it seems that the other street was then of the same extent as at present. It appears then that the original streets formed a huge cross, the angles of which have been filled up by the subsequent increase of the city.

Bishop Turnbull was undoubtedly a great benefactor to the town; but his benefactions were not wholly without price to the citizens, since he obtained a charter from the king, vesting in him the right of appointing and removing the municipal officers, from the highest to the lowest. From that time to the Reformation

* Gibson. Appendix, No. xv., where the bull, with a translation, is given.

this power was exercised by the bishops, or by noblemen acting in their right. When, however, the turn which the Reformation took induced Archbishop Beaton* to withdraw to Paris, taking with him the charters, relics, and every moveable of value belonging to the see, the citizens availed themselves of the disturbances of the times to resume the exercise of their municipal franchises. Their right to do this was, however, afterwards frequently challenged and infringed by the Protestant bishops, and by the nobles whom the disturbances of the time had enabled to appropriate the temporal powers and properties of the see. And although the parliament in 1633 declared Glasgow to be a royal burgh, with freedom of election, we find Cromwell and the privy council afterwards interfering; and the right has only been enjoyed without disturbance since 1690, when the town was declared free by a charter of William and Mary, with power in the town-council to elect the magistrates as fully and freely in all respects as Edinburgh, or any other royal burgh in the kingdom. M'Ure says, that Sir John Houston, provost in 1607, was the last country gentleman who occupied that office; the subsequent provosts down to his own time (1736) having been "creditable burgesses and trading merchants in the city." When the provost first assumed the title of "Lord Provost," and to be styled "Honourable," does not appear; but we know that, after the important event of 1690, the corporation felt encouraged gradually to assume the outward and visible symbols of consequence. Thus we find it recorded that in 1720 the lord-provost first began to wear a velvet court-dress;—that in 1767 the provost, baillies, magistrates, dean of guild, and convener, first wore chains of gold;—that such chains were also assumed in 1810 by the baillies of the river, and in 1812 by the baillies of the barony of Gorbals.

In the contest between the Regent Arran and the Earl of Lennox, during the minority of Queen Mary, Glasgow suffered considerably, being alternately occupied by the contending parties. The unfortunate Darnley (father of James I. of Great Britain) resided, some years afterwards, in the town, immediately previous to his mysterious death. And it was in the neighbourhood of Glasgow that the battle of Langside was fought, so decisive of the fate of Mary, after her escape from Lochleven Castle. Murray, who was then at Glasgow, heard of her escape, and although taken by surprise, determined to give her battle in the field. Assembling what men he could, including many citizens of the town, he went out, and crossing the bridge, awaited the approach of the enemy in an advantageous position, on a hill near the village of Langside, about two miles south from Glasgow. The adverse parties soon met, and in the action which ensued the fortune of the day went against the Queen, who stood upon a hill during the engagement; and when she saw her forces put to flight, mounted her horse and fled to the abbey of Drundenan in Galloway, sixty Scotch miles from the field of battle, before she took any rest. Murray, on his return to Glasgow, testified much gratitude for the assistance which the citizens had given him on this eventful occasion. A thorn-tree† was afterwards planted, with very touching appropriateness, to mark the spot on which Mary stood and witnessed the desolation of prospects she had ventured to entertain.

The history of following years is chiefly occupied in details connected with the progressive improvement and extension of the city, and the erection of various public structures. The few facts of general interest we shall prefer to mention when we come to notice the present state of the city, and shall in this place merely note down a few anecdotes which may here be the most fittingly introduced.

While the civil war raged in Scotland in the seventeenth century, it seems that the inhabitants of Glasgow were ranged into two rival factions in religion and politics: the Presbyterians, who were royalists; and the sectaries, who were republicans. After his victory at Dunbar, in September, 1650, and his subsequent acquisition of Edinburgh, Oliver Cromwell marched to Glasgow. On his approach, the Marquis of Argyle, and the greater part of the established clergy, fled; and the republican party in the city sent Oliver notice of a plot by which the royalists contemplated his destruction and the discomfiture of his troops. The plot, as described, consisted in filling the vault of the castle with gunpowder, and the whole was to be blown up as the general passed with his forces. Whether Cromwell believed this account or not does not appear, but he deemed it prudent to alter his intended course to avoid passing by the castle. While at Glasgow, he resided in a house on the east side of Saltmarket Street; and the room in which he used to hold his levees was, a few years since, occupied as a sale-room for old furniture. Cromwell, soon after his arrival, sent for Mr. Patrick Gillespie, the minister of the Outer High Church, who at that time had the chief influence in ecclesiastical matters; and by his hospitable treatment, his religious discourse, and his long prayers, the general so won upon this person, that he afterwards warmly espoused his cause, and took every opportunity of proclaiming his belief that Cromwell was indeed one of the elect. Not long after, the general went in state to the High Church; and the pulpit happened in the forenoon to be occupied by a preacher of the town, who, with a great deal more zeal than discretion, seized the opportunity to inveigh with considerable bitterness against Cromwell and his proceedings. One of the general's officers (some accounts say it was his secretary, Thurlow) whispered him for leave to "pull the fellow out by the ears;" but Oliver replied, "No, no, we will manage him in another way*." He accordingly invited the preacher to dinner, and concluded the entertainment with a prayer which lasted for three hours, contriving so completely to satisfy his scruples, that the evening discourse at church by the same person was tuned to the praise and honour of the victor of Naseby.

About two years after this, in July, 1652, nearly one-third of the city was destroyed by one of the most calamitous fires on record. It raged with great fury in the first instance, for eighteen hours, devastating the best streets of the town. In this time many persons, formerly wealthy, were reduced to beggary, and the houses of nearly one thousand families were utterly consumed. Many of them withdrew to the fields, and remained under the shelter of huts until better accommodation could be provided for them. This was on Thursday; by Saturday evening most of these unfortunate people had returned: but on Sunday morning the fire broke out anew, and continued to rage with almost its former violence for several hours. The whole of the inhabitants were then so completely terrified, that, after withdrawing what moveables they could from their houses, they hastened to the open fields, and remained there for several nights, until all apprehensions of further danger had subsided. The loss, which was estimated at 100,000*l.* sterling, was too great for the town to bear; the inhabitants were therefore obliged to apply to other towns for assistance; and Cromwell, when he heard of this unhappy event, exerted himself in promoting a subscription for their relief. It seems

* Beaton was the second archbishop. The see was made metropolitan in 1484.

† This thorn was ultimately superseded by a fir.

* Other accounts say that the request was for leave "to pistol the scoundrel," and the answer, "He is one fool, and you are another."

that the houses were chiefly of timber before this fire, to which, however afflicting at the time, the town is indebted for the erection of stone buildings, and for a more regular arrangement of the streets. Nearly a century after this event, however, most of the houses were still covered with thatch. It is worthy of notice that the expressions on this occasion, that a third of the city, containing the habitations of 1000 families, was consumed, shows, if we calculate five persons to a family, that the population must then have amounted to 15,000 persons, being double what it had been in 1610, when it did not exceed 7644. This duplication of the population within so short a time is confirmed on other authority, and is accounted for by the statement, that Glasgow during that period carried on the most considerable inland trade in Scotland, as well as an export trade in salmon and other articles, the produce of the country. From this time Glasgow has increased with a rapidity almost without a parallel. In 1695 it was expressly ranked as the second city of Scotland, and assessed accordingly. Yet at that time (whether from deficiency of registers, or from the effects of the civil war consequent upon the attempts of Charles II. to establish episcopacy in Scotland, does not appear) its population is stated as less than it had been forty years before. The progress which it made before and after this period, from an inconsiderable town to a city only exceeded by eight capitals of Europe, will be best illustrated by the following table, which may be here not inappropriately introduced for the sake of showing its relative importance at the different periods to which our statement refers.

In 1560 (probably)	4,460	In 1780‡	42,832
— 1610	7,644	— 1785	45,899
— 1660	14,678	— 1791	68,578
— 1688	11,948	— 1801§	77,385
— 1708*	12,766	— 1811	100,749
— 1712†	13,832	— 1821	117,043
— 1740	17,034	— 1831	202,426
— 1755	23,546	— 1835 (probably)	220,000
— 1763	28,300		

When Charles II. had obtained the concurrence of a subservient parliament in his design to establish episcopacy in Scotland, the archbishopric of Glasgow was revived, and measures of great severity were resorted to in order to punish the steady adherence of the town to presbyterianism. Not to mention other grievances, we may notice that in 1666 many citizens were hanged in the streets because they would not conform to episcopacy; and in January, 1678, the city was abandoned for five days to the cruelty and extortion of a body of 8000 Highlanders, who were sent to make the inhabitants sign a bond renouncing their faith. The year before this the town had suffered from another conflagration, in which 130 houses and shops were destroyed, and a large number of families thrown destitute. As the fire happened to be near the jail, which was then crowded with persons imprisoned for conscience' sake, the citizens, under the pretext of saving lives, broke open the doors and set them all at liberty.

The persecutions to which they were exposed on account of their religion, overcame in the minds of the people of Glasgow the attachment they naturally entertained for the native dynasty of Stuart, and it does not appear that any town in Britain hailed the Revolution of 1688 with more heartfelt satisfaction than this. No sooner had James fled the country than the citizens raised a troop of 500 men, which they sent to Edinburgh to assist in guarding the convention of estates that met there for the purpose of making a tender of the crown to William and Mary. This seasonable proof of attachment to the new order of things was rewarded by a charter establishing the municipal privileges of the town as they have since been maintained; and what perhaps they considered of much higher value than even their civil privileges, they thenceforward, in common with all their countrymen, enjoyed the undisturbed privilege of worshipping their God in the mode which had been the more endeared to them by great sufferings for its sake.

When the Union between the two kingdoms took place (1707), in the reign of Queen Anne, the measure, as we have already intimated, was so unpopular at Glasgow, that the citizens manifested much discontent and propensity to riot. In the end, however, this was found to have been a most beneficial measure for Scotland, and no town in Scotland profited more by this "sad and sorrowful union" than Glasgow itself, and perhaps we should not be much mistaken in dating the commencement of the relative greatness of the town from that event. It was at any rate productive of the highest advantages to it as a commercial city, for although before that time the town was in a thriving state, by virtue of its inland traffic and the extent to which it carried on the fisheries in the River Clyde, yet its merchants were greatly cramped in their speculations by the restriction, or rather prohibition, that was placed upon their commerce with the American colonies and the West India islands. The table of progressive population, given in a former column, will alone evince the steady rapidity with which the town has advanced since that period.

We have already stated the general plan on which the city of Glasgow has been extended along the sloping shore of the Clyde. Before proceeding to specify the more prominent objects which this town offers to our notice, it is desirable that our readers should be furnished with a sort of bird's-eye view, combining in one prospect the several parts of the great whole. By far the best general description of the town which has fallen under our notice is that given by Mr. Robert Chambers in his 'Picture of Scotland,' and we quote it with the more satisfaction as it enumerates and characterises some of the principal parts which it must be our business to notice separately.

"In the nether ward of Clydesdale and shire of Lanark," according to its earliest historian, M'Ure, "stands deliciously, on the banks of the river Clyde, the city of Glasgow, whilk is believed to be of its bigness the most beautiful city in the world, and is acknowledged to be so by all foreigners that come thither." Without being allowed all this praise, Glasgow may be described in more sober terms as occupying a highly convenient situation on the north bank of the Clyde, similar, though upon a smaller scale, to that of London upon the same bank of the Thames, namely, a plain gently ascending from the brink of the river. The bridges over the noble rivers which skirt, or rather intersect both, complete the resemblance of the second to the first city in the British empire.

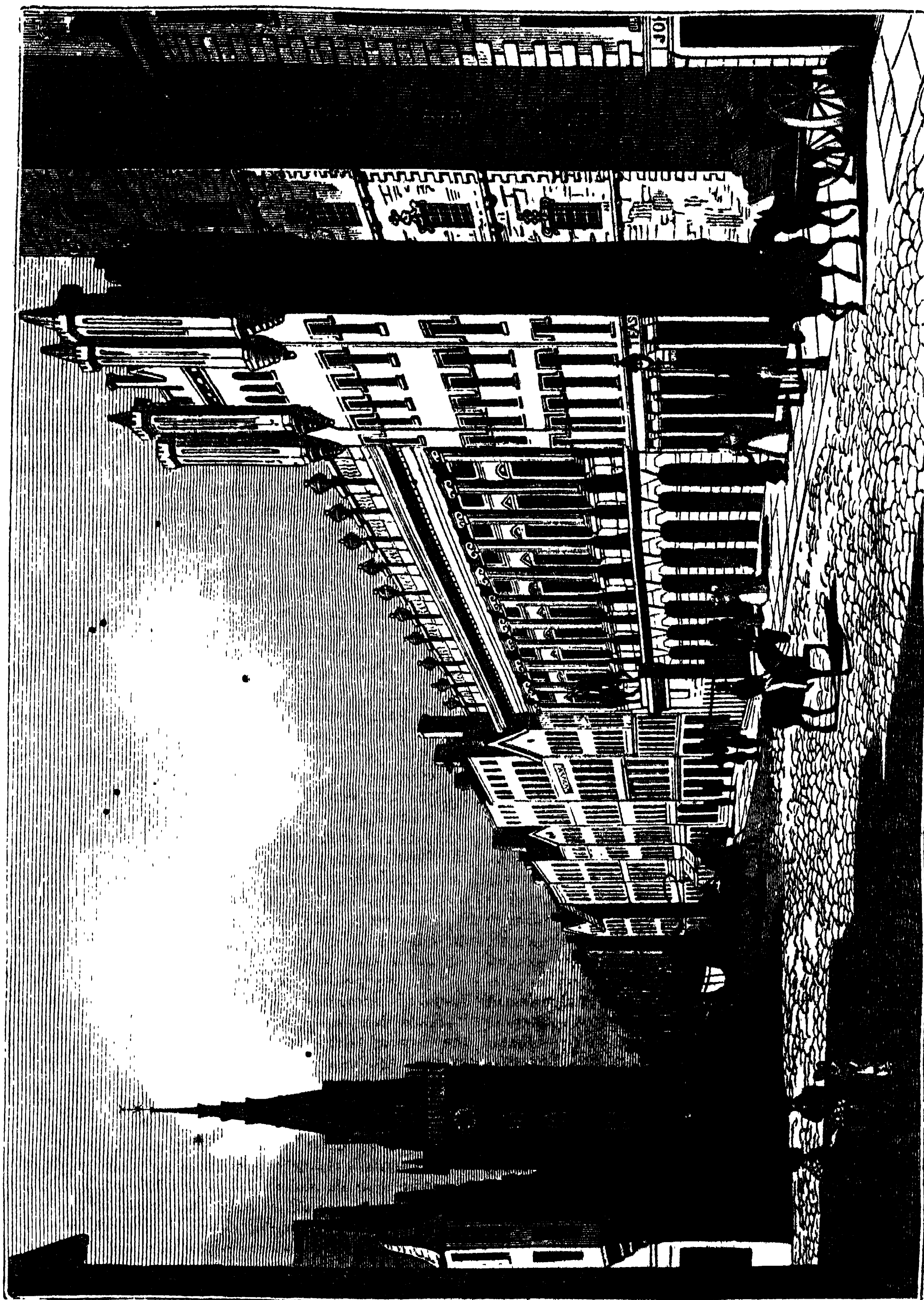
"Though this great emporium of the commerce and manufactures of Scotland possess not either the sublimity or elegance of the legal and aristocratic capital [Edinburgh], it is nevertheless an impressive and fine city. The number of its spires, and the judicious arrangement of most of its public buildings at the ends of streets,—the more general prevalence of a moderate degree of elegance in the private structures,—and the grace given to the whole by that noble river the Clyde, are points in which it surpasses the more ambitious city of the East. It possesses various other advantages in point of outward appearance. Its cathedral gives

* 1708. The magistrates ordered this census to be taken in order to mark the decrease which they expected to result from the Union, which was very unpopular in Scotland.

† 1712. There were 200 shops in the city at this time. At present there are 3000.

‡ 1780. The suburbs were now first included in the enumeration.

§ 1801. In this enumeration, part of the suburban population was excluded. If it had been added, the result would have been 83,769.



[Trongate Street, Glasgow.]

a solemn dignity to the more ancient district. The college buildings, the finest in Scotland before the erection of those of Edinburgh, and still possessing the superior merit of more nearly resembling the splendid models of Oxford, have also a highly dignifying effect. The Trongate, which with its continuations intersects the whole city from east to west, is a noble piece of street scenery,—indeed one of the noblest things of the kind perhaps in Europe*. Few of the streets are irregular or mean, while many of them may be called fine; and what must add greatly to the pleasure of a stranger in comtemplating them is, that all are filled during the whole day by crowds of prosperous and happy-looking people, who walk at a lively pace, and in whose eyes some animating purpose of business or of pleasure may constantly be read."

* Our larger wood-cut is a representation of this street as seen from the Cross. The statue is that of William III.; the curiously-projecting steeple belongs to the Trongate Church, of which Dr. Chalmers was for many years minister.

To this we have only to add, that the public buildings and the tenements fronting streets are mostly built with hewn stone and covered with slate. The greater part of the private buildings, particularly in the ancient part of the town, are, as in Edinburgh, built in what is called *flats*, by which two or more families are accommodated under the same roof, each floor being as it were a separate house for domestic purposes. This plan certainly contributes to give a town a grand appearance by encouraging the erection of spacious and lofty buildings; it however seems to detract in some degree from individual comfort and independence. The people of Glasgow seem now disposed to enter into the views of the English on this point, as the houses in the more modern part of the town are generally so formed that one family possesses the whole.

We learn, from the pleasant work of Mr. Chambers, that the Clyde, the Cathedral, the Green, and the Trongate, are the points upon which the native of Glasgow principally grounds his ideas regarding the consequence of the city, and which he would defend from any species of violation, as if it were a personal instead of a public property. We will therefore give precedence to the Clyde and the Cathedral in our account of the more noticeable objects in the city; but for the Trongate we must be content with the general notion which our large wood-cut and some passages in the preceding statements will have conveyed. As for the Green, we can only say that it is in the highest degree worthy of all the praise which the people of Glasgow claim for it, particularly since the improvements which it has of late years undergone and the extension it has received. There is, we believe, no town of equal size in the empire that possesses such a great public esplanade as this, whether its extent (about 140 imperial acres), its utility to the inhabitants, or its picturesque effect, be considered. It is on the banks of the river, adjoining the south-east side of the town, being a continuation of the plain on which it is built. This extensive piece of grass ground is bordered with trees, among which there are gravelled walks for an extent of about four miles. The views from the Green are interesting and finely diversified. It is of course a favourite resort of the inhabitants, to whom it serves the useful purposes of a promenade and a bleaching ground. At the west end of the Green there is a tall and handsome obelisk in memory of Lord Nelson, completed in 1806, at an expense of 2075*l*.

The Clyde.—The modern "*men* of Glasgow" (as they proudly call themselves, and as distinguished from the "*folk*" of Greenock and the "*bodies*" of Paisley) are not peculiar in their admiration of the Clyde. Their fathers of old, who haled forth by the neck the "idolatrous" statues in the Cathedral, yet did not forbear to idolize their noble river. That curious old twaddler, M'Ure, whose 'View of Glasgow' was published in the year 1736, has sundry verses in praise of the river. The following is a specimen of the local egotism with which the "men of Glasgow" found it in their hearts to speak of their city, when it was yet a small town. It is a translation, by the author of the 'Britannia,' of a Latin poem, by Dr. Johnston, written more than a century before M'Ure's own time, and when the population did not probably exceed 10,000.

"Not haughty prelates e'er adorn'd thee so,
Nor stately mitre,—cause of all thy woe,
As Clyde's muses grace thy blest abodes,
And lift thy head among the deathless gods.
Clyde, a great flood,—for plenteous fish renown'd,
And gentle streams that cheer the fruitful ground;
But happy Glasgow, Clyde's chiefest pride,
Glory of that and all the world beside,
Spreads round the riches of her noble tide."

The curious motto of the city arms would almost seem to have been devised in a spirit of prophecy. The armorial bearings are an oak-tree, with a bird perched upon the top, and a salmon suspended from the lower branch, with the motto, "Let Glasgow flourish." In former times, "through the preaching of the word" was added to the motto, but it was in the end restored to its primitive form.

In the beginning of the sixteenth century, the channel of the Clyde, for thirteen miles below Glasgow, was so incommoded by fords and shoals as to be scarcely navigable even for small craft. We cannot here enumerate the progressive improvement, by which the harbour of the Broomielaw has been brought to its present condition. Many of these improvements have been effected very recently. Only a few years ago the harbour was but 730 feet long: it is now 3340 feet long on the north side of the river, and 1260 on the south. It is only since 1831 that vessels drawing 13 ft. 6 in. water were able to come up to Glasgow. Before that time, vessels of 7 or 8 feet water only were able to go up, the rest being obliged to discharge and receive their cargoes at Greenock or Port Glasgow. At present, the river for seven miles below the city is confined within narrow bounds; and the sloping banks, formed of whinstone, are unequalled in the kingdom, whether their utility or beauty be taken into account. The quay, extending down the river, is perhaps better known under its denomination of the Broomielaw than any similar locality in the country. Mr. Chambers quotes two lines of an old ballad, which show that it was early of some consequence under this name:—

"At Leith comes in auld meal,
And herrin at the Broomielaw."

The Clyde is now crossed at Glasgow by four bridges, three of which are of recent erection. The original wooden bridge, formerly mentioned, over which Wallace marched to make his famous attack on the Bishop's Castle, having fallen into decay, a new one of stone was built at Stockwell Street, by Bishop Rae, in 1345. This bridge was originally twelve feet wide with eight arches. It was widened ten feet in 1777, when the two northernmost arches were built up for the purpose of confining the river within narrower limits It was still further improved about fifteen years since by the addition of footpaths suspended on tasteful iron framings It is now 415 feet long, and 34 feet wide within the railing. This is distinguished by the name of the Old Bridge. The New bridge, otherwise called the Jamaica Street Bridge, is the lowest on the river. A bridge was first built there in 1768. Although considered elegant and spacious at the time it was built, it had a very inconvenient ascent. It was therefore resolved to remove it and erect a new one, which should afford such accommodation as the increase of population and business in that quarter required. Accordingly the first stone of the present structure was laid in July, 1833, by Dr. James Cleland, the eminent historian and statician of Glasgow. It is from a design of the late Mr. Telford. It is 560 feet long, has seven arches, and is sixty feet wide over the parapets, which is wider than any other river-bridge in Scotland. It has a very gentle acclivity, and is faced with Aberdeen granite. In the year 1794 a bridge, called Hutcheson's Bridge, was commenced above the Old Bridge. It was destroyed before it was quite finished by an inundation of the river in the following year. A new one was not commenced till 1829; and it has had a better fate than its predecessor. It has five arches, is 406 feet in length, and thirty-six feet wide within the parapets. During its absence its place had been in some measure supplied, and perhaps its re-erection prevented, by a wooden bridge, for foot-passengers only, which was thrown across the Clyde at the bottom of Saltmarket Street. It was much admired for its elegant appearance and

light construction; but on the rebuilding of the Hutcheson Bridge it was removed, and a new one was erected lower down the river, in 1832, at Portland Street. This new timber-bridge is thirty feet wide within the railing, and has a carriage-way and two side pavements.

The Cathedral.—We may hereafter have occasion to give a separate cut of this other pride of the "men of Glasgow," which is undoubtedly the most splendid and entire specimen of ancient architecture that now exists in Scotland, and the only cathedral, except that of Orkney, which was allowed to survive the Reformation. We shall therefore at present abstain from a detailed account, and confine ourselves to a brief general view. For this we shall again be obliged to Mr. Robert Chambers, whose general descriptions are commonly the best that can be found, and who in the present instance has, we perceive, adopted, with some modification, the description given by Sir Walter Scott in 'Rob Roy.'

"It is a stupendous dusky fabric of Gothic architecture, and placed upon unequal ground, somewhat higher at the eastern than western extremity. The general aspect is gloomy rather than elegant; but its peculiar character is so well preserved, and so well suited with the accompaniments that surround it, that the impression of the first view is awful and solemn in the extreme. Though situated in a populous city, it has the appearance of the most sequestered solitude. High walls divide it from the buildings of the city on one side; on the other it is bounded by a ravine, through the depth of which runs a little stream; and the opposite bank throws a shade over it that adds greatly to its effect. It seems to have never been finished, there being no transepts. A tall tower and spire rise from the centre, and at the western extremity another tower projects from one of the corners, containing the bells. The latter object is a prodigious deformity to the whole structure, mainly because it is surmounted by a short leaden spire of the most grotesque and inappropriate appearance that can well be conceived; and it must be the wonder of every stranger of taste that the magistrates permit it to exist, since a flat leaden covering to the tower would be equally useful, and possess the merit of not offending the eye."

In the first fervour of the Reformation, the following order was issued by the general government at Edinburgh, to all magistrates and persons in authority:—

"To our traist friendis:

"Traist friendis, after maist harty commendacion, we pray you to fail not to pass incontinent to the Kirk [of Glasgow,] and tak down the hail images thereof, and bring forth to the kirk-zyard, and burn thaym openly. And sicklyk cast down the altaris, and purge the kirk of all kynd of monuments of idolatrye. And this ze fail not to do, as ze will do us singular emplesur; and so committis you to the protection of God.

"From Edinburgh, the xii of Aug. 1560.

(Signed.) AR. ARGYLE,
JAMES STEWART,
RUTHVEN.

"Fail not, bot ze tak guid heyd that neither the dasks, windocks, nor durris be ony ways hurt or broken, either glassin wark or iron wark."

In the zeal which was then rife to destroy every edifice that had been consecrated to the service of the Roman Catholic faith, small heed was paid to the limitations contained in this order, which was only regarded as in some measure authorizing what would have been effected without such authority. The Cathedral of Glasgow was at this time, however, spared through the sensible advice of the provost, who recommended the zealots to wait till a new church was built before they pulled down the old one. The building seems, however, to have been stripped of its valuable contents, and even of the leaden roof; and ultimately, in 1579, the Principal of the College and the clergy of the city prevailed upon the magistrates to consent to the destruction of the stately fabric. Accordingly a numerous body of workmen were engaged for this service; but when they were assembled by beat of drum, and were about to commence their labour, the craftsmen of the town, headed by their "deacons," appeared upon the scene, and swore that the man who pulled down one stone of the building should not live to bring down another. From the previous conduct of the magistracy, we may be allowed to suppose that they were glad of the excuse which the spirited conduct of the crafts afforded for recalling the consent which had been drawn from them. At any rate, the provost promised that no harm should be done to the Cathedral, and the craftsmen then quietly dispersed.

Having escaped these dangers, the interior was formed into three Protestant churches. The choir was divided by a stone partition, and the western portion formed into a place of worship under the name of the Outer High Church. Another church, called the Inner High Church, was formed out of the nave; and the spacious half-subterraneous sepulchral vaults underneath the nave were fitted up as a third church, for the Barony Parish, and in which Sir Walter Scott makes Rob Roy appoint the assignation with Frank Osbaldistone. These alterations seem to have been made without any pretensions to taste of any kind, and with utter disregard of the original plan and style of the building. Within the present century, however, both the Inner and Outer Churches have been fitted up anew, with better taste, and in a style which in a considerable degree corresponds with the magnificent external architecture of the Cathedral. Since 1801 the vaults under the nave have been abandoned as a place of worship, and restored to their original destination as a cemetery.

Several of the other ecclesiastical structures of the town are numbered among its principal architectural ornaments; but the design of this article, and the limits to which we are restricted, does not allow us to enumerate, and much less to describe them.

The University.—The origin of this establishment has already been mentioned. It was reduced almost to extinction at the Reformation, its members being almost exclusively Catholic clergymen, and most of its property being derived from the church. Through the royal liberality and patronage it was in time again brought into an efficient condition, and is now considered a flourishing establishment. The college buildings, with the houses for the accommodation of the professors, are situated on the east side of the High Street, about half way between the Cathedral and the Trongate. They are very extensive, having a frontage of 305 feet to the High Street, and a depth of 282 feet from east to west. These buildings, with the four courts*, three of which form quadrangles, occupy a space equal to 9556 square yards. The height of the buildings is generally three stories, and "the whole being built of polished freestone, and darkened by age, have a partly venerable, partly elegant aspect, and, as already remarked, approaches nearer than any other to the magnificent models of Oxford. A large piece of ground behind the college is formed into a park or green, interspersed with trees and hedges, and always kept in grass, to be used by the students as a public walk or place of exercise or amusement†. As the students do not reside on the premises, but lodge in the town, the importance and efficiency of such an establishment as the University of Glasgow must be estimated by far other considerations than the

* There are two principal courts one behind the other; and two small courts, one on each side of the front quadrangle, and entered by separate gateways in the High Street front.

† Chambers's 'Picture of Scotland.'

form and quantity of the stone and mortar forming the apartments in which its teachers give instruction, and in which collections are preserved. Of the collections belonging to the establishment the most important is the Hunterian Museum, preserved in a modern building at the back of the interior court. The founder of this museum was the celebrated Dr. William Hunter, who was born in the neighbourhood of Glasgow, and who, at his death, bequeathed to the college his splendid collection of books, coins, paintings, anatomical preparations, &c., together with the sum of 8000*l*. for the erection of a building for their reception. The collection is valued at 65,000*l*. in the following proportions: medals, 30,000*l*.; books, 15,000*l*.; pictures, 10,000*l*.; miscellaneous, 10,000*l*. The collection has been considerably increased of late years, and the benefits of it are not limited to the students, any person being allowed to inspect it on the payment of one shilling.

Municipal Structures.—The Town Hall buildings, which appear in our larger wood-cut, were finished in the year 1636. This structure is situated on the north side of the Trongate, at the east end near the Cross. The basement was originally formed into an arcade with a rusticated front, over which rises a range of fluted Ionic pillars. The Town Hall is fitted up in an elegant style, and contains portraits of the monarchs of Great Britain, with a bust of George III., and a statue, by Flaxman, of William Pitt. The ground flat of this building contains the Tontine Coffee-room, a place of public resort, and which was, until of late, the virtual Exchange of Glasgow. For building this coffee-room and hotel a subscription was opened in 1781, by way of tontine, in 107 shares of 50*l*. each. The architect evinced considerable skill in throwing the arcade of the Town Hall into an extensive portico, retaining the upper part of the cross walls of the superior structure. The coffee-room is 74 feet long, and of proportionate breadth and height. It is furnished with Scotch, English, Irish, and foreign newspapers, magazines, reviews, and other periodical publications. Strangers are admitted without introduction, and may enjoy all the privileges of subscribers for four weeks without any subscription, a liberality not equalled (as Dr. Cleland believes) in any other great town in the island. This establishment is now superseded in some of its uses by the magnificent Exchange, which has been erected in Queen Street, adjoining the site of the theatre, which was burnt down in 1829. Opposite the Tontine, and close to the pavement, stands the noble equestrian bronze statue of William III., which was presented to the city in 1734 by Mr. Macrae, formerly Governor of Madras. "It is," says Mr. Chambers, "a truly elegant work of art, and, in one sense, the finest public object in Glasgow."

The tea-dealer's shop at the corner towards High Street, occupies the site of the Old Jail, or Tolbooth, which has been rendered a place of mark by Sir Walter Scott, who has assigned to the locality some incidents in his stirring tale of 'Rob Roy.' After a more commodious prison had been erected in 1810, this place was sold at public auction for 8000*l*., the purchaser being under conditions to take it down, and in the building with which he might replace it to follow a design which furnished it with turrets and embrasures, so as to maintain an appearance of correspondence between it and the old tower of the Jail, which is still preserved. This tower, which faces High Street, partly appears in our wood-cut. It is 126 feet high, and is only remarkable for terminating in the shape of an Imperial crown. It is furnished with a clock and bell, and a set of musical chimes, so arranged as to play a separate tune at the end of every two hours, changing after twelve o'clock, P.M. A skilful musician performs favourite airs on the musical bells every day, except Saturday and Sunday, during 'Change hours. It would seem that the tower was preserved less for its own sake, than for the sake of the bells.

The new jail and court houses are contained in a structure which stands at the bottom of Saltmarket street. It fronts towards the east, and forms the western termination of the public Green. This building has an imposing portico of six Grecian Doric columns, and is erected generally in that style of magnificence which has occasioned the saying, that the prisons are the best edifices in Scotland. It was erected at a cost of 34,800*l*., and, exclusively of the public offices, contains 122 apartments for prisoners. There are two rooms, with anterooms, for prisoners under sentence of death. They are insulated from the jail, and so completely cased with iron, that it is not necessary to subject the prisoners to irons upon the person, as is done in almost every other jail. The governor's house is so constructed that he can overlook both the court yards from his sitting-parlour.

Statues and Monuments.—The preceding account has afforded us occasion to notice some of the public statues and monuments of Glasgow. The following are those which have not previously been mentioned: —a pedestrian statue of Sir John Moore in bronze, upon a granite pedestal, in George Square. Sir John was a native of Glasgow; and when his fellow-citizens heard the news of his death on the plains of Corunna, a subscription was entered into, which, in a few days, amounted to upwards of 4000*l*. The work was executed by Flaxman. In the necropolis, opposite the cathedral, a pillar, surmounted by a statue of John Knox, has recently been erected by private subscription. "Colossal in its proportions, and undistinguished by either likeness or costume," says Chambers in his 'Picture,' "it seems like the spirit of the Reformer come back to inveigh, with outstretched arm, against the cathedral, and, if possible, to complete the work which he left unfinished at his death." Glasgow has three statues of its honoured son James Watt: one, a bronze pedestrian statue on a granite pedestal, is placed in George Square; another, of marble, is in the Hunterian Museum—these two are by Chantrey; the third is a colossal statue, placed over the pediment of the Mechanics' Institute, the funds for which were raised by subscriptions of one shilling each, paid by each student in successive years.

In concluding this Supplement, it may be necessary to remind our readers that it does not profess to include, even in substance, all the information, or even all of the interesting and important information, which so large a subject as Glasgow offers. This could not have been done within our limits without reducing the account to the dry simplicity of an index. We have therefore rather chosen to confine our attention to some prominent points in the *external* history and condition of this important city. In performing this intention we have not forgotten the equal claims to notice of the facts illustrating the *internal* history of its past and present condition, and of the social ameliorations which have been effected or are in progress. To these subjects, together with its trade and manufactures, we shall give our attention in another Supplement.

The authorities of which we have chiefly availed ourselves in preparing the above account, are,—M'Ure's 'View of the City of Glasgow;' Denholm's 'Historical and Topographical Account of the City of Glasgow;' Cleland's 'Annals of Glasgow;' Chambers's 'Picture of Scotland;' and the articles GLASGOW in the 'Edinburgh Encyclopædia' and in the 'Encyclopædia Britannica.'

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THE TYROL.—No. IV.

Castel-Val.



[View of Castel-Val.]

Castles romantically situated occur very frequently among the mountains of the Tyrol, and being mostly in ruins and overgrown with ivy, they form one of the most picturesque features of scenery which is almost everywhere picturesque or striking. The view we have engraved in our present Number represents Castel-Val or the Valley Castle, which travellers admire as a fine specimen of these hoary mountain-fortresses. It stands on a lofty overhanging rock, in the upper part of the beautiful valley of Meran, which we have already described. We find nothing particular related of it beyond its bold situation and frowning aspect. Its history is probably in the main just the same as that of most of these edifices: at first the strong-hold of a feudal baron who lived and died in it; then, on the decline of the feudal system and the extension of the royal power, a garrison held for the sovereign of the country, or occupied merely as a dwelling-house by its titled owner; then, as the art of war advanced, and artillery, bombs, and shells, rendered many a place, though built on a mountain rock, as weak as if it had been erected on a plain, it was abandoned as a military position; and then, as the whole state of society changed, and the nobility took up their permanent abode in courts and cities, and felt a taste for more commodious and luxurious domestic arrangements than the interior of most of these rude hill-fortresses could afford, the castle, finally, was altogether abandoned, ceasing even to be an occasional country-residence to its owners, and time and the tempest doing their work, it generally became, in the course of a century or two, a complete ruin, where the bat flitted and the owl roosted.

It was the same story everywhere. In England,

where the increase of population and cultivation was so rapid, and subject to so few checks, the immense majority of these feudal castles wholly disappeared from the face of the earth; the walls were knocked down, the best of their materials being used in building farm-houses and cottages, and the plough passed over their foundations from barbacan to donjon-keep. But in poorer and thinly-peopled mountainous countries, where the materials were not wanted, and the ground would be of no use, the towers and battlements were rarely molested by the hand of man; and in many parts of Europe they still frown " along the steep " in numbers almost incredible. In the Tyrol, in Savoy, in many parts of Switzerland, in all the passes leading into Italy, in the valley of Piedmont, along the whole Apennine chain, and in every mountainous district in the Italian peninsula, these ruins of the middle ages abound,—a positive fact which upsets a pretty sentiment of Madame de Stael, who said that this classical land would only retain traces of the classical ages, and rejected from her bosom the gloomier relics of barbarism and feudality.

In our preceding Numbers we have said something of the character and habits of the Tyroleans, and we will now add a few more traits and circumstances the better to enable the reader to form a notion of this very interesting people. The martial nature of the illustration at the head of this article suggests that we should in the first place speak of the military qualities of the Tyroleans, of which, however, our sketch of Hofer's extraordinary campaigns against the French must have given some idea. Like most mountaineers they have been distinguished by their bravery in actual service, but they have at all times evinced even more than the usual dislike of mountaineers for the rigour and routine of military discipline. The Austrian system, with its stiff unbending rules and interminable details, tends probably more than any other to convert the soldier into a mere machine; but, though constantly acting with the Imperial troops, and loyal beyond measure to the emperor, the Tyroleans not only never would submit to be made machines of, but they persisted in maintaining their own loose and light system of discipline, and in being commanded by officers of their own nation, who for the most part associated freely with their men, and were endeared to them by old ties and old acquaintanceship. They moreover would enter the army and serve only as volunteers, stating (what was true enough) that whenever an enemy set foot on their soil, or their emperor stood in need of their service, they were always ready to take up their rifles, and march without any impressment or compulsion. In 1785 the Emperor Joseph endeavoured to subject them to regular forced levies for the military service, and to the same discipline that prevailed in the rest of the army, but after exciting a great deal of dissatisfaction and disgust, he was obliged to give up these projects. It was probably the odious conscription introduced by the French and their dependents the Bavarians, that contributed more than anything else to make the Tyroleans rise almost to a man against the tyranny of Napoleon. In a country like theirs, abounding with chamois and other game, nearly every peasant contrives to buy a rifle and becomes a sportsman; and then, for many ages, one of their national sports and their favourite amusement has been, to meet in parties for rifle-exercise, and to rival each other in address at firing at the mark. These matches are, or at least were, much more common among them than ever were games of cricket among our peasantry, and every village of the Tyrol boasted one or two dexterous youths (the pride and glory of the place) who could do wonders with their rifles. This arm, and their system of fighting, did very well in their own country and a mountain warfare, but though they laugh at the unfortunate tactics of the Austrians, who lost most of their great battles according to rule, it may be questioned whether the Tyroleans could have done much beyond their frontiers, if left unsupported by a more regular army or organized system.

M. Mercey gives one of their epigrams, of which the sense is,—" To gain a victory, say the Austrians, without tactics, is mere hazard and luck. Agreed! but we would rather beat our enemy without tactics, than be beaten with them." As a component part of an army, and that, too, a most important part, no men are superior to the Tyroleans, who have every quality proper to light infantry and tirailleurs (sharp-shooters). Even in the most disastrous campaigns, their activity, boldness, and quickness of resource have commanded the approbation of all parties. We never saw merrier and lighter-hearted soldiers than some of these rifle-brigades that were employed in Italy a few years ago. They were nearly all young men, who had voluntarily engaged for a determinate number of years, and who carried their national habits and amusements, and almost their country's costume, into the very midst of the severity and rigmarole of an Austrian army. On certain fixed days, and on every Saint's day or holiday, these men used to be exercised at firing at the target. The officers took the rifle as well as the common soldiers, and the surgeon and assistant-surgeon, nay, even the chaplain of the corps, generally joined like true Tyroleans in this contest of skill, which, for the time being, seemed to bring about a perfect equalization of rank and dignity. An odd farcical fellow, the Merry Andrew of his corps, used to take his stand near the target, and every time that a good shot was made, he gave a shout of applause, but every time that a want of dexterity and steady aim were shown—no matter whether by man or officer—he made all kinds of grimaces and antics to deride the failure. The whole thing used to look more like an amusement than the performance of a military duty, but in this way the young men acquired or kept up an extraordinary degree of perfection in their particular mystery.

We have mentioned the pastoral migrations of the poor peasantry in another paper. But the Tyroleans do not migrate merely as soldiers and shepherds, but become great travellers as venders of toys and small articles of furniture and cabinet-making, which are manufactured at home, and as retailers of simple medicines and nostrums that are made out of the herbs, roots, and flowers that grow on their own mountains and in their native valleys. They generally call these simple decoctions " Teas." Thus they have, for example, a " tea for coughs and catarrhs;"—" a tea for pains of the chest;"—another tea, sovereign as a remedy for the bile, and so on through the cases of fever, rheumatism, sprained ancles, &c., &c. Some of these simples are far from being contemptible as medicines, but the mischief is, the ignorant too often use them as universal cures. They also carry on a *foreign* trade in coarse leather gloves, and the Tyroleans contrive to get a share in the business of the people of the north of Italy as builders and plasterers.

The commercial operations of these poor and simple mountaineers are nearly always carried on by partnerships, the inhabitants of a village uniting to form a stock of goods, and then agreeing that certain of their number shall be appointed to travel for the disposing of the said goods. At the return of the travellers, who generally form a considerable portion of the whole speculative body, seeing that, in most cases, they are mere packmen, carrying the goods on their own backs, the profits are divided among the villagers who had contributed to the stock in proportion to their several adventures.

M. Le Comte de Bray, who tells us he made six journeys into the Tyrol, and never once left that picturesque country without regret, says, that from 30,000 to 40,000 of the peasantry, in one way or the other, emigrate and return every year.

MINERAL KINGDOM.—Section XLV.

ANTIMONY.

The properties of this metal were first investigated and described by the alchemist Basil Valentine, who is supposed to have flourished about the early part of the fifteenth century. There is an absurd story of its having been called *anti-moine* by him (*anti-monk*), in consequence of its having proved fatal to some of his brother-monks, to whom he administered a dose of it in order to recover them from a state of emaciation into which they had fallen from long fasting. But, as Basil Valentine was a Benedictine monk of Erfurt in Germany, and wrote in high German and Latin, it is not very likely that he should give a French name to his newly-discovered metal; and, moreover, the word *Antimonium* is used by Constantinus Africanus, a medical writer of the eleventh century, who is supposed to have derived it from an Arabian word of similar sound applied to the metallic substance known to the ancients by the name of *stibium*.

Pure antimony has a dull whitish colour, between that of tin and iron, but when fresh melted, or recently broken, it has a considerable lustre, tarnishing soon by exposure to the air. Its specific gravity is only 6·70, and it is so brittle that it can neither be hammered out into plates nor drawn into wire. It melts at a temperature of about 810° of Fahrenheit, but, if air be excluded, it does not rise in vapour even though exposed to a very intense heat: in an open vessel it burns, at a high temperature, with a bright flame, and is volatilized; the vapour condensing on the surrounding cooler bodies in the form of brilliant crystalline needles, of a snowy or silvery white, which have obtained the name of *argentine flowers* of antimony, or *snow of reguline antimony*.

This metal is sometimes found in the pure or native state, but it is rare. The most common form in which it occurs is in combination with sulphur, in the proportions of about 74 per cent. of antimony and 26 of sulphur, forming a mineral not unlike lead, but so fusible that a small fragment of it may be melted in the flame of a common candle. Another ore consists of antimony, sulphur, and oxygen, and a third of antimony, oxygen, and a little earthy matter, but these last are comparatively rare. The ores are found in the primary and more ancient secondary strata, never in the sedimentary deposits above these, nor in the unstratified or igneous rocks. They are found in Cornwall alone in the United Kingdom, and not very abundantly there, so that the far greater proportion of this metal used in the arts is imported. The largest supply is from the East; a considerable quantity is shipped at Bombay, and Burnes speaks of its being found in Caubul; but the most abundant mines of antimony in the world are in the island of Borneo; the produce of these is chiefly shipped at Sincapore for the European markets. There are mines of this metal in Hungary, Germany, and France, but they are far from being sufficiently productive to supply the demand in those countries.

The metal is obtained by first heating the ore in a furnace with charcoal; and, from its very fusible nature, the earthy impurities with which it is mixed are easily separated; what remains is the common or *crude* antimony of the shops, a combination of the metal with sulphur. This last is got rid of by exposure to a gradual heat, and the residue being mixed with tartar and subjected to a full red heat, the metallic antimony separates in a melted state, when it is known by the name of *regulus* of antimony,—an old term, still kept up in commerce, which used to be applied in those cases when a metal and one of its ores happened to be called by the same name.

Uses.—The chief consumption of antimony is for the alloy of which printers' types are made, which is a composition of about four or five parts of lead, one of antimony, and a little copper. The peculiar adaptation of this alloy to this purpose is its property of expanding when it congeals from the melted state, by which it insinuates itself into the minutest parts of the mould. The metal on which music is engraved is an alloy of tin and antimony, and it enters into the composition of the finest qualities of pewter. Oxides of antimony are employed to give a yellow colour to glass and earthenware. Some preparations of it are powerful medicines; it is the principal ingredient in tartar emetic, and in the well-known James's powders.

BISMUTH.

This metal is supposed to have been known to the ancients: it is described in the works of George Agricola, the celebrated metallurgist of Saxony, who flourished in the first half of the sixteenth century, but its properties were not fully investigated and made known for more than two centuries afterwards. It is of a reddish-white colour, with a considerable lustre,—has a specific gravity of 9·82, is quite brittle, and therefore possesses neither malleability nor ductility. It melts at a temperature of 476°; in a stronger heat it ignites, burning with a blue flame, and when exposed to a high temperature in a close vessel, it sublimes entire. It unites readily with other metals, rendering them more fusible. A mixture of nine parts of bismuth, five of lead, three of tin, and two of mercury, forms what is called the *fusible metal*. As it melts at a heat of about 150°, spoons are made of it for the sake of the practical joke of presenting one to a person, who is surprised to see it disappear in his tea or soup.

Bismuth is found in the pure or native state, as an oxide, and in combination with sulphur. These ores are met with in primary rocks in different parts of Germany, Sweden, Norway, and France, and sparingly in Cornwall, and in Connecticut in the United States. The metal is easily obtained from them in consequence of its great fusibility. It is little employed in its metallic state, except in the best kinds of plumber's solder, which is composed of five parts of lead, three of tin, and one of bismuth. In the state of white oxide it is used as a paint, when it goes by the name of Spanish white, though that term is often applied to washed chalk. A more careful preparation of the oxide forms the cosmetic used by ladies who wish to correct the brown tint of their skin, and sold by perfumers under the name of *pearl powder*. It is prepared by dissolving the metal in nitro-muriatic acid, and adding water in large quantities; a powder falls down, which, when well washed, is composed of minute white scales, with a pearly lustre.

THE AMERICAN BISON.

(Abridged from the Penny Cyclopædia.)

The American male bison, when at its full size, is said to weigh 2000 lbs., though 12 or 14 cwt. is considered a good weight in the fur countries. Dr. Richardson gives eight feet and a half as its length, exclusive of the tail, which is twenty inches, and upwards of six feet as its height at the fore-quarters. The head is very large, and carried low; the eyes are small, black, and piercing; the horns are short, small, sharp, set far apart, for the forehead is very broad, and directed outwards and backwards, so as to be nearly erect, with a slight curve towards the outward pointing tips. The hump is not a mere lump of fatty secretion, like that of the zebu, but consists, exclusive of a deposite of fat, which varies much in quantity, of the strong muscles attached to



[Bison Americanus. A bull.]

the highly-developed spinous processes of the last cervical and first dorsal vertebræ, forming fit machinery for the support and movement of the enormous head. The chest is broad, and the legs are strong; the hind parts are narrow, and have a comparatively weak appearance. The tail is clothed with short fur-like hair, with a long, straight, coarse, blackish-brown tuft at the end. In winter the whole body is covered with long shagged hair, which in summer falls off, leaving the blackish wrinkled skin exposed, except on the forehead, hump, fore-quarters, under-jaw, and throat, where the hair is very long and shaggy, and mixed with much wool. Catesby observes that on the forehead of a bull the hair is a foot long, thick and frizzled, and of a dusky black colour, that the length of this hair, hanging over their eyes, impedes their flight, and is frequently the cause of their destruction, but that this obstruction of sight is in some measure supplied by their good noses, which are no small safeguard to them. A bull, says he, in summer, with his body bare and his head muffled with long hair, makes a very formidable appearance. In summer the general colour of the hair is between dark-umber and liver-brown, and lustrous. The tips of the hair, as it lengthens in winter, are paler, and before it is shed in summer much of it becomes of a pale, dull, yellowish-brown. In the female the head is smaller, and the hair on the foreparts is not so long as it is in the male.



[Bison Americanus. Females. A bull in the distance.]

Congregating in vast herds, these animals are said to cover the wide-extended savannahs of the more southern districts of the north for miles in extent. 'Such was the multitude,' say Lewis and Clarke, speaking of an assemblage of bisons as they crossed the water, 'that although the river, including an island over which they passed, was a mile in length, the herd stretched, as thick as they could swim, completely from one side to the other.' The same travellers, speaking of another of these grand spectacles, say,—'If it be not impossible to calculate the moving multitude which darkened the whole plains, we are convinced that 20,000 would be no exaggerated number.' Catesby, after stating that they range in droves, feeding on the open savannahs morning and evening, says that in the sultry time of the day they retire to shady rivulets and streams of clear water gliding through thickets of tall canes. Dr. James had an opportunity of observing them on such occasions, and he thus describes their march:—'In the middle of the day countless thousands of them were seen coming in from every quarter to the stagnant pools;' and in another place he says, that their paths are as frequent, and almost as conspicuous as the roads in the most populous parts of the United States.

The bisons, in truth, are a wandering race, the motives of their restlessness being, either disturbance by hunters or change of pasture. After the fire has cleared the prairie of all the old herbage, the delicately tender grass which springs up in the room of the old wiry bents that fed the flame, offers the most grateful food to the migratory bisons: such spots are well-known to the hunter as points of attraction to these animals. In the winter, when the snow lies deep over the vegetation, they scrape it away with their feet to get at the grass.

Fierce and terrible are the fights among the bulls in the rutting season, and perilous is the condition of the man who then approaches them. For the greatest part of the year the bulls and cows live in separate herds; but at all seasons, according to Dr. Richardson, one or two old bulls generally accompany a large herd of cows.

These powerful beasts are in general shy, and fly from the face of man till they are wounded; they then become furious, and pursue their enemy with the most vindictive spirit, as we shall presently see; but we must first say a word or two on some of the different modes of hunting them. Du Pratz and Charlevoix give several particulars of the chace of these animals by the Indians. If the rifle be used the hunter is careful to go against the wind, for the sense of smelling is so exquisite in the bison that it will otherwise get scent of him and precipitately retire. If he gets within rifle-distance he is careful so to take his aim that the beast may drop at once, and not be irritated by an ineffectual wound.

But the great hunting is, or rather was, somewhat after the manner of the Scottish 'tinchel.' A great number of men divide and form a vast square. Each band sets fire to the dry grass of the savannah where the herds are feeding. When the affrighted beasts perceive the fire approaching on all sides, they retire in confusion to the centre of the square, where the bands close upon them, and kill them as they are huddled together in heaps without hazard; 1500 or 2000 beeves have been given as the produce of such an expedition.

Captain (now Sir John) Franklin gives us the following information. After stating that the Stone Indians are so expert with the bow and arrow that they can strike a very small object at a considerable distance, and shoot with sufficient force to pierce through the body of a buffalo when near, he thus describes a buffalo or bison pound:—

'The buffalo pound was a fenced circular space, of about a hundred yards in diameter; the entrance was banked up with snow, to a sufficient height to prevent the retreat of the animals that once have entered. Fro about a mile on each side of the road leading to the pound, stakes were driven into the ground at nearly equal distances of about twenty yards; these were intended to represent men, and to deter the animals from attempting to break out on either side. Within fifty or sixty yards from the pound, branches of trees were placed between these stakes to screen the Indians, who lie down behind them to await the approach of the buffalo. The principal dexterity in this species of chase is shown by the horsemen, who have to manœuvre round the herd in the plains so as to urge them to enter the roadway, which is about a quarter of a mile broad. When this has been accomplished, they raise loud shouts, and, pressing close upon the animals, so terrify them that they rush heedlessly forwards towards the snare. When they have advanced as far as the men who are lying in ambush, they

also rise, and increase the consternation by violent shouting and firing guns. The affrighted beasts having no alternative, run directly to the pound, where they are quickly despatched, either with an arrow or gun. There was a tree in the centre of the pound, on which the Indians had hung strips of buffalo flesh, and pieces of cloth, as tributary or grateful offerings to the Great Master of life; and we were told that they occasionally place a man in the tree to sing to the presiding Spirit as the buffaloes are advancing, who must keep his station until the whole that have entered are killed.'

The same author further proceeds as follows:—'Other modes of killing the buffalo are practised by the Indians with success; of these, the hunting them on horseback requires most dexterity. An expert hunter, when well mounted, dashes at the herd, and chooses an individual which he endeavours to separate from the rest. If he succeeds, he contrives to keep him apart by the proper management of his horse, though going at full speed. Whenever he can get sufficiently near for a ball to penetrate the beast's hide he fires, and seldom fails of bringing the animal down; though, of course, he cannot rest the piece against the shoulder, nor take a deliberate aim. On this service the hunter is often exposed to considerable danger from the fall of his horse in the numerous holes which the badgers make in these plains, and also from the rage of the buffalo, which, when closely pressed, often turns suddenly, and, rushing furiously on the horse, frequently succeeds in wounding it, or dismounting the rider. Whenever the animal shows this disposition, which the experienced hunter will readily perceive, he immediately pulls up his horse and goes off in another direction.

This chase of the bison is not unattended with danger, 'for,' says Catesby, 'when wounded they are very furious, which cautions the Indians how they attack them in open savannahs, where no trees are to screen them from their fury. Their hoofs, more than their horns, are their offensive weapons, and whatever opposes them are in no small danger of being trampled into the earth.'

Dr. Richardson, in his '*Fauna Boreali Americani*,' says, that the favourite Indian method of killing the bison is by riding up to the fattest of the herd on horseback, and shooting it with an arrow; and he speaks of the imposing spectacle which is afforded when a large party of hunters are engaged in this way on an extensive plain, and of the skill and agility displayed by the young men on such occasions. The horses, it appears, seem to enjoy the sport as much as their riders, and are very active in eluding the shock of the animal, should it turn on its pursuer. It should be remembered, on such occasions, that, when the bison runs, it leans very much first to one side for a short time, and then to the other, and so on alternately.

Dr. Richardson also confirms Captain Franklin in the assertion, that the most generally practised plan of shooting the bisons is by crawling towards them from to leeward, and that in favourable places great numbers are taken in pounds.

Though the risk of the chase be considerable, the reward is great; for there are few animals that minister more largely to the wants and even to the comforts of man than the American bison. The horns are converted into powder-flasks; the hide, which, according to Catesby, is too heavy for the strongest man to lift from the ground, is very valuable, and is used for a variety of purposes. Purchas relates, that in old times the Indians made the best of targets of it; and Catesby says that they make their winter moccasins of it also, but that, being too heavy for clothing, it is not often put to that use. Others, however, assert that the Indians dress the skins with the hair on, and clothe themselves with them, and that the Europeans of Louisiana (Louisiana, in the older sense of the term before the purchase of it by the United States in 1803) use them for blankets, and find them light, warm, and soft. Dr. Richardson confirms the latter account, for he says in the work above quoted, 'The fine wool which clothes the bison renders its skin, when properly dressed, an excellent blanket; and they are valued so highly, that a good one sells for three or four pounds in Canada, where they are used as wrappers by those who travel over the snow in carioles.' Thomas Morton (in his *New English Canaan*, Amsterdam, 1637,) observes, that 'their fleeces are very useful, being a kind of wolle, as fine almost as the wolle of the beaver, and the salvages do make garments thereof.' Catesby says that the Indians work the long hairs into garters, aprons, &c., dyeing them into various colours; and, according to Pennant, the hair or wool is spun into cloth, gloves, stockings, and garters, which are very strong, and look as well as those made of the best sheep's wool. Pennant further says that the fleece of one of these animals has been found to weigh eight pounds, and quotes the authority of Governor Pownall for the assurance that the most luxurious fabric might be made of it. This assurance, it appears, was far from groundless, for Dr. Richardson informs us that the wool has been manufactured in England into a remarkably fine and beautiful cloth; and that, in the colony of Osnaboyna, on the Red River, a warm and durable coarse cloth is formed of it.

The flesh of a bison in good condition, says the author last quoted, is very juicy and well-flavoured, much resembling that of well-fed beef. Others describe it as bearing the same relation to common beef that venison bears to mutton. The tongue, when well cured, is said to surpass that of the common ox as a relish. All concur in the praises of the delicious hump, rich, savoury, and tender. This is the fleshy part that covers the long spinous processes of the anterior dorsal vertebræ, and is called *bos* by the Canadian voyagers, and *wig* by the Orkney men in the service of the Hudson's Bay Company, according to Dr. Richardson, who says that much of the pemmican used by the voyagers attached to the fur companies is made of bison meat, procured at their posts on the Red River and Saskatchewan: he adds, that one bison-cow in good condition furnishes dried meat and fat enough to make a bag of pemmican weighing ninety pounds.

The fat bulls yield a great quantity of tallow; and Du Pratz records that a hundred and fifty pounds weight have been procured from a single beast. Pennant says that these over-fed animals usually become the prey of wolves, for, by reason of their great unwieldiness, they cannot keep up with the herd, and, on the authority of Du Pratz, gives the following account of their sagacity in defending themselves against the attacks of their fierce persecutors:—'When they scent the approach of a drove of those ravenous creatures, the herd flings itself into the form of a circle: the weakest keep in the middle, the strongest are ranged on the outside, presenting to the enemy an impenetrable front of horns: should they be taken by surprise, and have recourse to flight, numbers of the fattest or the weakest are sure to perish.' Dr. Richardson, however, speaking of the numerous wolves on the sandy plains which, lying to the eastward of the Rocky Mountains, extend from the sources of the Peace and Saskatchewan rivers towards the Missouri, says, that there bands of them hang on the skirts of the buffalo herds, and prey upon the sick and straggling calves, but that they do not, under ordinary circumstances, venture to attack the full-grown animal. As a proof of this he adds, that the hunters informed him that they often saw wolves walking through a herd of bulls without exciting the least alarm, and that the marksmen, when they crawl towards a bison for the purpose of shooting it, occasionally wear a cap with two ears, in imitation of the head of a wolf, knowing from experience that they will be suffered to approach nearer in that guise.

The grisly bear is one of the most formidable enemies of the American bison; and the strongest bull goes down before him.

The Indian is too wild in his habits to submit to the fetters which an attempt to domesticate animals would impose upon his liberty; a child of the wilderness, he depends on his bow or his rifle for his subsistence, and wanders free. It is not, therefore, surprising that no attempt should have been made by the aboriginal inhabitants to reduce the bison to obedience. Catesby, however, says that these animals have been known to breed with tame cattle that were become wild, but that the calves being so too, were neglected, 'and though,' he continues, 'it is the general opinion, that if reclaiming these animals were impracticable (of which no trial has been made), to mix the breed with tame cattle would much improve the breed, yet nobody has had the curiosity nor have given themselves any trouble about it.' Pennant states that the experiment has been made, and that it has failed, for he thus writes in his Arctic Zoology:—'Attempts have been made to tame and domesticate the wild bison, by catching the calves and bringing them up with the common kind, in hopes of improving the breed. It has not yet been found to answer: notwithstanding they had the

appearance for a time of having lost their savage nature, yet they always grew impatient of restraint, and, by reason of their great strength, would break down the strongest inclosure, and entice the tame cattle into the corn-fields. They have been known to engender together, and to breed; but I cannot learn whether the species was meliorated by the intercourse.'

A very fine American bison bull was shown a few years ago in this country as the 'bonassus,' and under that name found its way into the epilogue of the Westminster Play as one of the wonders of the day. It was afterwards purchased by the Zoological Society of London; but it had been enfeebled by confinement and disease, and died soon after the Society became possessed of it. The Hudson's Bay Company supplied its place by presenting a young cow, which has lived for some years in its present quarters at the Garden in the Regent's Park.

THE TRANSMISSION OF BIDPAI'S FABLES TO PERSIA.

Having given in a former Number an account of the Indian collection of fables, called Pancha Tantra, and having intimated to what extent that collection has, with various modifications, been diffused throughout Asia and Europe, it seems to us that the history of its entrance into Persia has sufficient interest to deserve being briefly stated to our readers. It will be recollected this migration was the first step in the extensive diffusion which these fables have now obtained; and the account of the efforts which were made to obtain the book, the triumph which was felt in its acquisition, and the characteristic reward of the person who had endangered his existence to obtain it, convey an impression so equally to the advantage of the Persians and the fables, that we cannot be content to pass it by.

One of the most renowned kings of Persia was Nousheerwan, whose reign commenced in the year 531 A.D., and terminated in 579. He was of course a worshipper of fire; but even the Arabian writers, who hate the fire-worshipping sect, speak of him with admiration, and surname him "The Just;" and Mohammed himself used to boast of his good fortune in being born in the reign of so just a monarch. His virtues are still the theme of many a tale and anecdote, current to this day in the country which it was the great endeavour of his life to render prosperous and happy. It is, however, only with his patronage of literature that we have at present to do. Many schools and colleges were founded by him, and he gave every encouragement to such men of learning and talent as resorted to his court. It is related that he caused a vast number of copies to be made of Ardisheer's 'Instructions for all degrees of Men;' and circulated them throughout his kingdom, requiring that every family should possess a copy. Historians do not number it among the least glories of this good monarch's reign, that he caused a copy of the Fables of Bidpai to be procured from India, and had it translated into the language of Persia.

Nousheerwan, in the course of his inquiries into the various branches of science, got information of a book preserved in India, which contained every species of instruction, together with rules for the profitable employment of the present and the happy anticipation of the future. He therefore desired his vizier Buzurdjmihr to look out for some clever person, who might not only well understand the Persian and Indian languages, but be also distinguished for his zeal in the acquisition of knowledge. The vizier, whose name is honourably associated with that of his master in all useful undertakings, fixed upon a physician named Barzouyeh, whom he introduced to the king, who explained to him the object of his proposed mission, which was to procure a copy or translation of the book in question, which was understood to be preserved with great care in the library of an Indian king. "You will," proceeded Nousheerwan, "make the best use of your talents and judgment in the prosecution of this undertaking, which will extend also to the acquisition of any other writings hitherto unknown amongst us, constantly bearing in mind the great advantage which your success will procure both to us and yourself."

Thus instructed, and having been most amply supplied with funds from the royal treasury, Barzouyeh departed on a day which the astrologers had pitched upon as peculiarly auspicious. On arriving at his destination, he lost no opportunity of seeking the acquaintance of the principal persons at court, as well as the men of letters of the country. Among the persons with whom he thus associated, there was one person whose more particular intimacy it seemed expedient to cultivate on account of the peculiar opportunities he seemed to enjoy of assisting the objects of the Persian. To this person, therefore, he attached himself with peculiar zeal; and at last when he felt convinced that his friend was one on whom he could entirely rely, he declared to him fairly his whole design, and implored his assistance.

The Indian declared that he had already suspected this to be Barzouyeh's object; and, in the end, he expressed himself willing to render him assistance so far as he could do so without compromising his own personal safety.

Shortly after this the Indian brought to Barzouyeh from the king's library the book of which he was principally in search, as well as some others of great importance. He spared no pains, either of mind or body, in immediately translating the works into the Persian language;—working hard at it night and day, as he was afraid that the king might possibly ask for the books before they were finished, and that his plans would be discovered and frustrated if it should be found that they were missing from the library. At last his work was accomplished, and he then wrote to Persia to receive the further commands of the king, who directed him to hasten home with all convenient speed.

On his arrival he waited on the vizier, who was affected on perceiving the alteration which anxiety and fatigue had made in his appearance, and endeavoured to hearten him with the prospect of the distinctions which would reward his exertions, and advised him to go to his own house and repose himself for a few days, after which he should be introduced to the king.

Against the day of his introduction, Nousheerwan required the attendance of all the emirs and learned men, and directed Barzouyeh to read aloud the contents of the book which had formed the principal object of his mission. The persons who were present, say the Oriental narrators, were so struck at the profound lessons of knowledge it contained that they could not withhold the expressions of their joy, but thanked God for his bounty and mercy, testifying their gratitude to Barzouyeh for the great service which he had rendered to his sovereign and country. Then the king commanded the choice things of his treasury—his most precious stones—his gold and his most splendid robes—to be placed before Barzouyeh, and desired him to take freely all that his heart desired; informing him at the same time that he exalted him in dignity above all the nobles of his kingdom.

On this Barzouyeh humbled himself before the king, and prudently and respectfully said he had no occasion for the rich rewards which his sovereign offered to him. Nevertheless, to show his obedience, he went and took a very rich robe of Khorassan, such as kings were in the habit of wearing. Then, after declaring that his difficulties and perils had been amply repaid by the testimonies of approval with which he had been favoured, he intimated that there was yet one favour which he

should most thankfully receive. Nousheerwan assured him that, whatever his request might be, it should be granted, even were it for a share of his kingdom. Thus encouraged, Barzouyeh said, his desire was, that the vizier should be commissioned to write a narrative of his life, with an account of his great undertaking; and that this account should, in all the copies of the work, be placed before the first of the stories. "This memorial," said he, "will not fail to raise me and my family to the highest pinnacle of glory, and to perpetuate our name in distant ages as long as the book exists that has procured for me the favour of the king." Nousheerwan and his nobles highly admired the elevation of character which sought its reward in the memory of a grateful posterity; and the king, going up to the vizier, made it a personal request that he would undertake the proposed task. The narrative of the previous Life of Barzouyeh is still prefixed to the Persian and Arabic versions of the book, together with that account of his undertaking of which the above is an abstract, derived from Mr. Knatchbull's translation.

The version made by Barzouyeh into Pehlevi, the old language of Persia, was translated into Arabic with alterations and additions. This version was conceived by the Moslems to be so much superior to the original, that when the Pehlevi was getting out of use the Persians chose rather to translate this, with further alterations and additions, than to make use of their own original version. In this, its fourth form, the work was commonly considered to have been still further improved. There are considerable differences between the original Sanscrit work and the Persian and Arabic versions; and by comparing Mr. Wilson's account of the 'Pancha Tantra' and the translations of the 'Hitopadesa' with the translations of the Arabic and Persian versions, it is easy for even the English reader to discover the modifications which the work has received in the various hands through which it has passed.

A great proportion of the fables in this collection possess such a resemblance to fables well known in Europe, and commonly considered to be European, that the remarks which we formerly made on the analogy between the fables of different countries, are in the strongest degree confirmed. Every one will recognise the familiar fable of the 'Town and Country Mouse' in the following story of the 'Two Cats,' which, so far as we can at present ascertain, is one of the additions which the Persians made to the Indian original. It is quite in the Persian style.

There was formerly an old woman, extremely gaunt and meagre, that lived in a little cottage as dark and gloomy as a fool's heart. She had a cat that never saw any other than the likeness of bread,—never beheld the face of a stranger,—and was forced to be contented with only smelling the mice in their holes, or to see the prints of their feet in the dust; or if by any extraordinary chance she happened to catch a mouse, she was like a beggar that discovers a treasure,—her visage and her eyes were inflamed with joy,—and that booty served her for a whole week together. Nevertheless, because the cottage was still the mansion of famine, she still bewailed her wants. One day she was walking upon the house top, ready to perish with hunger, when she espied from thence another cat upon a neighbouring wall, stalking along like a lion, as if counting her steps, and so fat that she could hardly go. The old woman's cat, astonished to see a creature of her own species so plump and large, called to her with a loud voice, saying,—'You look as if you came from one of the Khan of Kathai's feasts: tell me, I conjure you, how you got into such good cc

king's table,' replied the other. 'I go to the house every day about dinner time, and there I lay my paws upon some nice morsel or other which serves me till the next day.'

After some further discourse, the fat cat takes pity upon the lean one, and engages to conduct her to the king's house on some future day. Meanwhile the depredations of the cats had been so remarkably outrageous the evening before the old woman's cat went thither, that orders were given to the servants to kill all the cats that could be found. In an evil hour, therefore, was it that our puss went thither, and seized a piece of meat from a dish when she thought herself unobserved; for while quietly solacing herself with such unwonted fare under the dresser, the meat was missed, —she was discovered in her hiding place,—and one of the men threw a knife at her, which wounded her severely in the breast. However, as a cat has nine lives, she made a shift to escape notwithstanding her wound; but in her flight, observing the blood streaming from her breast, she said, 'Well, let me but escape this time, and if ever I again quit my old haunts and my own mice for all the rarities in the king's kitchen may I lose all my nine lives at once.'

The fine fable of the 'Gardener, the Bear, and the Fly,' as known in Europe, is taken from the Persian modification of the 'Pancha Tantra,' and it affords a curious instance of the modifications which fables undergo in their transmission from one country and language to another. The principle of the fable is doubtless taken from the Indian work, but has been completely changed in its persons and details by the Persians. The man in the original is a prince, not a gardener; the beast a monkey, not a bear; and the insect a bee, not a fly. The fact that monkeys are not animals of Persia, in some degree accounts for this change, and probably led to the whole being re-cast. In the original work it is a pet monkey, who is set to watch the slumbers of a prince; a troublesome bee settles on the Rajah's face in spite of all the monkey's efforts to drive it away, till at last the animal becoming incensed in the highest degree, snatches up his master's sword, and making a blow at the bee, cuts off his lord's head. In the new cast of thought and circumstances with which the Persians have invested this fable, it seems to us they have not only adapted it well to their own country, but have materially improved its general effect and the point of the moral. We give it from the simple and familiar version of Joseph Harris, published in 1699*:—

"There was in former times a gardener who loved his gardening to that degree, that he absented himself from the company of men, to the end that he might wholly give himself up to the care of his flowers and plants. He had neither wife nor children, and from morning till night he did nothing but work in his garden, so that it lay like a terrestrial paradise. But at length the man grew weary of being alone, and took a resolution to leave his garden in search of good company.

"As he was walking at the foot of the mountain, he spied a bear, whose looks put him into great affright. The bear was also weary of being alone, and came down from the mountain, for no other reason but to see whether he could meet with any one who would join society with him. So soon, therefore, as they saw each other, they began to have a friendship one for another. The gardener first accosted the bear, who made him a profound reverence. After some compliments had passed between them, the gardener made the bear a sign to follow him, and carried him into his

* The preceding and following fables are also taken, with some abridgment and verbal alteration, from this translation, which professes to be from the Persian, but is more probably from the French version after the Persian.

garden, where he regaled him with a world of very delicious fruit which he had carefully preserved, so that at length they entered into a very strict friendship together. Such was their friendship, that when the gardener was weary of working, and lay down to take a short nap, the bear, out of affection, was wont to stay all the while by him, and keep off the flies from his face. One day that the gardener lay down to sleep at the foot of a tree, and that the bear stood by to drive away the flies, it happened that one of these insects alighted upon the gardener's mouth, and still as the bear drove it away on one side, it would alight on the other; which put the bear into such a chafe, that he took up a great stone to kill it; it is true that he did kill it, but with the same blow two or three of the gardener's teeth were demolished." The moral which Harris's version deduces from this fable is, that it is sometimes better to have a discreet enemy than an ignorant friend. It is evidently a satire on the blunders of inconsiderate zeal.

There are several other fables in which bears are prominent characters. One seems to be the original of the well-known fable of the 'Bear and the Bees,' which our present engraving illustrates. It has an Indian air, and although we do not recollect that it is included in Mr. Horace Wilson's specification of the fables in the 'Pancha Tantra,' it does not appear to have undergone much alteration in the hands of the Persians. We may state the substance of it, in order that our readers may compare it with that which we subjoin.

"A great number of monkeys lived in a delightful country stored with all manner of pleasant fruits. A bear travelling that way by accident, and considering the beauty of the residence, and the sweet lives the monkeys led, said to himself, 'It is not just or reasonable that these little animals should live so happy, while I am forced to run through forests and mountains in search of food.' Saying this, he ran among the apes, and killed some of them for very madness. But, uniting their forces, they fell upon him, and bit and mauled him with such effect, that he was soon covered with a gore of blood, and did not escape without great difficulty." The fable then goes on to relate subsequent wars between the bears and monkeys, ending in the triumph of the latter; but the story is complete without this continuation.

In the common collections, the fable of the 'Bear and the Bees' is but poorly told. The following, from Dodsley's edition (1764), is as good as any we can find:—

"A Bear happening to be stung by a bee, the pain was so acute, that in the madness of revenge he ran into the garden, and overturned the hive, vowing the destruction of the whole race. This outrage provoked their anger to a high degree, and brought the fury of the whole swarm upon him. They attacked him with such violence, that his life was in danger, and it was with the utmost difficulty that he made his escape." There are several morals which might be extracted from this. The common one is, that it is more prudent to acquiesce under an injury from a single person, than by an act of vengeance to bring upon us the resentment of the whole community. But perhaps it still more forcibly tells us that the combined exertions of the individually insignificant are more than adequate to repel the aggressions of the individually strong.



[Bear and Bees.]

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THE GROUND SQUIRREL.



[The Common Ground Squirrel.]

Among the whole *Order* of the *Rodentia* animals,—abounding as it does in groups of high interest to the naturalist, and of species remarkable for their appearance and their habits—none are so universally attractive as the squirrels,—they combine in themselves neatness and delicacy of form with great activity and address. To the woods and parks of our own country the common squirrel is an acknowledged ornament. Its gambols with its mate,—its sprightliness and rapidity of motion, —its arch looks, as it peeps from its retreat with its full, expressive eye—its twig-built nest,—its storehouse of winter food,—are familiar to the commonest observer. Our squirrel may be regarded as the type of one of the groups into which the family (*Sciuridæ*) is naturally divided. This group is characterized among other things by the general fullness of the fur, the bushiness of the tail,—of which the hairs proceed from each side as the webs of a feather,—and especially by the essentially arboreal nature of their habits. The trees are their dwelling and their refuge. There is however another and not less interesting group of the *Sciuridæ*, which differs from the preceding in many remarkable details,—a terrestrial group of burrowing squirrels; having, in accordance with that habit, short fur, and cheek-pouches in which to convey food to their subterranean magazine. It is to this group, which has received the generic title of *Tamias*, that we now direct attention. The ground squirrels, as they are popularly designated (or rather the genus *Tamias*), are almost exclusively limited to the northern and temperate regions of both continents. It is true that the palm squirrel of India and the Barbary squirrel may seem an exception, but these, though they have been associated with them by some authors, do not belong to them, but occupy an intermediate station between the ground and the arboreal squirrels. The species which the genus *Tamias* includes do not exceed five or six, as known at present. The head is narrower and more pointed than in the genus *Sciurus*, of which the common squirrel is the type; the fur is shorter, the tail less bushy, and the lateral arrangement of the hairs of this part decidedly less marked. They have cheek-pouches, which the true squirrels have not, and seldom climb trees, unless when obliged in order to escape a pressing danger. Though dwelling in countries where the winter cold is often intense and always severe, they do not hybernate, as is the case with the marmot of the Alps, or the dormouse, but are lively, and stirring

abroad when the earth is bound up with frost, unless indeed in the most northern regions, when they sojourn in their burrows while the snow is upon the ground. In these burrows they accumulate a large store of winter-provision, which consists of nuts, seeds, herbs, and grasses*. Of one species, the four-banded ground squirrel (*Tamias quadrivittatus*), which is a native of North America, being found as far north as the Great Slave Lake and along the range of the Rocky Mountains, Dr. Richardson observes that, "it is an exceedingly active little animal, and very industrious in storing up provisions, being generally observed with its pouches full of the seeds of liguminous plants, bents, and grasses. It is most common in dry, sandy spots, where there is much underwood, and is often seen, in the summer time, sporting among the branches of willows and low bushes. It is a lively, restless animal, troublesome to the hunter, and often provokes him to destroy it by the angry, chirrupping noise it makes on his approach, and which is a signal of alarm to the other inhabitants of the forest. During the winter it resides in a burrow, with several openings, made at the root of a tree, and is never seen on the surface of the snow at that season. When the snow disappears, many small collections of hazel-nut shells, from which the kernel has been extracted by a minute hole gnawed in the side, are to be seen on the ground near its holes. Mr. Say states its nest to be composed of an extraordinary quantity of the burrs of *xanthium*, portions of the upright *cactus*, small branches of pine-trees, and other vegetable productions, sufficient in some instances to fill a cart. On the banks of the Saskatchewan the mouths of their burrows are not so protected."

The species figured at the head of this article is the common ground squirrel (*Tamias striatus*), which is spread through the north-eastern portion of Europe and the north of Asia. It is the *Ecureuil Suisse* of the French, so called because its striped back has some resemblance to a Swiss doublet. The following are the observations of Pallas, a celebrated naturalist, who had opportunities of investigating its habits. These striped squirrels, as he terms them, "dig their burrows in woody places, in small hummocks of earth, or near the roots of trees; but never, like the common squirrels, make their nests in the trunk or branches, although, when scared from their holes, they climb with facility, and make their way from branch to branch with great speed. A winding passage leads to their nest, and they generally form two or three lateral chambers to store their food in. The striped squirrel, in its manners and from having cheek-pouches, is allied to the hamster and citillus (type of the genus *Spermophilus*), and is likewise connected with the latter by its convex nose, proper for an animal accustomed to dig. In its whole habit it differs from the squirrels which live in trees, and forms with other striped squirrels a division of the genus. It has a longer head than the common squirrel;—rounded ears, not tufted—roundish, hairy tail, which it less frequently turns up;—a slender body and shorter limbs. The fur likewise is very short, and less fine. Yet in its diurnal habits, and in not becoming torpid in winter, it comes near the squirrels: it is difficult to tame."

There is a species, if not identical with the *Tamias striatus* at least closely allied to it, which is common in some parts of North America, and especially on the borders of Lakes Huron and Superior. By most naturalists indeed the American and the Asiatic ground squirrel have been considered the same; but Dr. Richardson, whose opportunities of examining the American animal were very frequent, is disposed to regard it as a distinct species, and has restricted to it the specific title of *Tamias Lysteri*, first applied by Ray. But he observes at the same time that in habits and manners it precisely agrees with its Old World congener. It is known in the United States of America by the name of *Hackee*;—the Huron tribes call it *Ohihoin*.

In size the ground squirrel is inferior to a rat, the length of the head and body being about six inches, that of the tail three. Its form is slender;—the eyes are large, the ears rounded and erect;—the cheek-pouches of moderate size, extend a short way behind the ear, and open into the mouth between the incisors and the grinders. The general colour of the back is yellowish brown, passing into red on the lower part of the back and spreading over the limbs. Along each side runs a distinct white streak, bordered above and below by a similar line of blackish brown, and a line of this colour extends from the occiput down the spine. The fur of the under surface of the body is white.

The genus *Tamias* must be regarded as an intervening link between the squirrels and the marmots, leading to the former through the Barbary and palm squirrel, and through the genus *Spermophilus* to the latter. To this group of the marmots indeed it has a very close affinity.

* The Greek word Tamias (Ταμιας) means a *store-keeper*.

STATE OF THE POOR IN FOREIGN COUNTRIES.

(*Abridged from Foreign Communications made to the Poor Law Commissioners.*)

The conditions on which parochial assistance is afforded in various foreign countries, form perhaps the principal difference between their systems and that which we have adopted. In England, where the scale and the allowance systems prevail, no condition whatever can be said to be imposed on the pauper. What he receives is a mere gratuitous addition to his income. Even where work is required, the hours are in general fewer, and the labour less severe than those of the independent labourer. And the workhouse, the most powerful of our instruments of repression, affords in general food, lodging, clothing, and warmth, better than can be found in the cottage, and may be quitted at a day's notice.

But in all the countries from which Reports have been received, except the canton of Bern, and perhaps Denmark, the great object of pauper legislation, that of rendering the situation of the pauper less agreeable than that of the independent labourer, has been effectually attained.

According to the statements which we have received, it will be seen that the pauper loses all right to property; that he becomes incapable of contracting marriage while receiving relief; and in many countries, if he have once received relief, cannot marry until he has reimbursed the parish, or has procured security that his future family shall not become chargeable, or till three years have elapsed since he last received relief. If married, he loses control over his children, he cannot choose his residence or his occupation, and if he once becomes the inmate of a workhouse he incurs the risk of imprisonment for life. When such are the terms offered by the public, it is easy to understand that none but the really destitute will accept them.

The prevalence of habits productive of pauperism is repressed by subjecting the whole labouring population to superintendence and restrictions which we should consider vexatious. As they are in a great measure interwoven with the laws for the relief of the unemployed, and have been in general already stated, it is not necessary to repeat them.

In almost all the countries which have been mentioned, endeavours are made to prevent the existence of a redundant population by throwing obstacles in the way of improvident marriages. Marriage on the part of persons in the actual receipt of relief appears to be

everywhere prohibited, and the marriage of those who are not likely to possess the means of independent support, is very seldom allowed.

Thus we are told that in Norway no one can marry without "showing, to the satisfaction of the clergyman, that he is permanently settled in such a manner as to offer a fair prospect that he can maintain a family."

In Mecklenburg, that "marriages are delayed by conscription in the 22nd year, and military service for six years; besides, the parties must have a dwelling, without which a clergyman is not permitted to marry them. The men marry at from twenty-five to thirty, the women not much earlier, as both must first gain by service enough to establish themselves.

In Saxony, that "a man may not marry before he is twenty-one years old, if liable to serve in the army. In Dresden, professionists, (by which word artisans are probably meant,) may not marry until they become masters in their trade."

In Würtemberg, that "no man is allowed to marry till his twenty-fifth year, on account of his military duties, unless permission be especially obtained or purchased. At that age he must also obtain permission, which is granted on proving that he and his wife would have together sufficient to maintain a family, or to establish themselves; in large towns, say from 800 to 1000 florins (from 66*l.* 13*s.* 4*d.* to 84*l.* 3*s.* 4*d.*); in smaller, from 400 to 500 florins; in villages, 200 florins (16*l.* 13*s.* 4*d.*). They must not be persons of disorderly or dissolute lives, drunkards, or under suspicion of crime, and they must not have received any assistance from their parish within the last three years."

A similar law prevails and is strictly enforced in Bavaria.

Another means by which the extension of pauperism is opposed in the countries which we have mentioned, is the care taken by the government to provide for the education of the labouring classes. We are told that in Norway their children have free access to the parish schools, and that the poor pay, for the education of their children and for religious teachers, nothing or nearly so. The general report from Russia states, that every parish in every town has a school which is open to children of all classes, under the direction of the clergyman; and this is borne out by the consular return from Archangel. The Göttenburg report states, that in Sweden gratuitous education is provided for the children of the indigent, and that it is asserted that there is not one person out of 1000 who cannot at least read. The Danish report states, that the children of all poor persons are educated gratuitously: that the parish is taxed for the payment of the schoolmaster, the repairs of the school-house, books, papers, pens, ink, &c.; and that parents are bound, under a penalty, to send their children regularly to school until they have passed the age of fourteen, and been confirmed. Gratuitous education is also afforded in Mecklenburg and in Prussia. Mr. Gibsone states, as the general law of the country, that "all children capable of going to school are obliged to attend it. Those whose parents are unable to pay the expense must be sent thither at the cost of the community to which they belong; the expense of school-money and religious instruction is about 1*s.* 6*d.* yearly for each child." In the detailed regulations for the relief of the poor in Berlin, it is laid down that "the period of children being sent to school regularly commences at the beginning of the child's seventh year, and terminates when the child, according to the testimony of the minister, has acquired the knowledge necessary for his station in life, which generally occurs on his attaining his fourteenth year. If parents allow their children to grow up without instruction, the commissioners for the relief of the poor are to remonstrate with them; and should this be of no avail, the commissary of police is to interfere." In Saxony, "the local poor commission supports free schools." The Bavarian poor law enacts, that all the children of the poor shall, without favour and without regard to the usual pretexts, be kept to the practice of the public school and religious instructions, as also of frequenting the work and industry schools and of learning a trade. The school money is to be paid from the poor institutions.

Among all the continental communities which recognise in the poor the right to relief, the only one which does not appear to provide the means of education, and to enforce their being made use of, is that in which pauperism has become absolutely intolerable, namely, the canton of Bern; and even there any aubain, or person not entitled to bourgeoisie (settlement) in the parish in which he resides, may be summarily ejected (unless possessed of landed property in it) if it can be proved that he does not either send his children to school or provide otherwise for their education.

Lastly, in most of the countries which have been considered, the local administration of the laws for the relief of the poor is controlled by a central superintending authority.

The only countries, the reports from which state that this is not the case, are Sweden, Denmark, and Bern; and the reports show that these are the three countries in which the poor laws are the worst administered, and that in all of them the mal-administration which the reporters deplore is mainly attributed by them to the absence of a central control.

In France, in the department of the Loire Inférieure, the Report states that, to prevent the increase and lessen the present state of disorder into which the greater part of the labouring class and mechanics of Nantes has fallen, a number of master tradesmen and proprietors of factories will not employ those men who do not agree to allow a certain sum weekly to be retained from their wages for the use of the wife and family. The example spreads, and will no doubt become more general; but this circumstance shows forth, in strong colours, the immoral state of the working class in France.

There are no cottages for labourers, as are seen in England: the chief part of the work on farms in this part of France is done by servants in the house of the farmer, or by married labourers, to whom an acre or two, sometimes as high as ten, according to the quality, is fenced off from the estate for the use of the man and his family; for which he has to give a certain number of days' work. If such patch of land requires to be ploughed, the farmer does it for him for an additional number of days' work. Besides those, there are an immense number of little proprietors, having from an acre and a half to ten or fifteen acres; and they give their labour also to the farmers of larger estates, receiving in return either assistance with oxen, carts, ploughs, &c., or an equivalent in some produce which they do not raise on their own land. Very little money, if any, passes between them. These little properties have sprung up from labourers and others fencing in small patches of commons or waste lands. Nearly all the vineyards in the Loire Inférieure are cultivated by labourers, who have a small spot of ground partitioned off from the main estate; it is for married men only that ground is so divided; the single men live with their families in the villages, or in public-houses, but generally in the latter. In regard to these questions, it must be observed that almost every farmer who hires an estate takes such a one as will just sustain his family, without the aid, or with the assistance only of a man or a man and woman servants, and that therefore very few daily labourers find employment. Few estates run to 200 acres, and, if so large, a daily labourer is only hired during harvest, so wretchedly is the husbandry of the country managed.

Of Contentment.—They that preach contentment to all, do but teach some how to dwell in misery, unless you will grant content desire, and chide her but for murmuring. It is not a fault to strive to better our estates, which yet we should never do, if we rested fully content with what we enjoyed for the present. God hath allotted man a motive mind, which is ever climbing to more perfection, or falling into a lower vice. Certainly, that content which is without desiring more, is a kind of fault in any. Perfection is set in that height, that 'tis impossible mortal bodied man should ever reach the crown; yet he ought still to be aiming at it, and with an industrious persecution, persevere in the rising way. We cannot be too covetous of grace; we may well labour for more accomplishments; and by lawful ways, and for good intents, there is no doubt, but 'tis lawful to desire to increase, even in temporal wealth. Certainly man should be but a dull earth, to sit still and take the present, without either joy or complaint, without either fear or appetite. In this I like not Aristippus his doctrine, who is hot in persuading men neither to be troubled at what is past, nor to think of what is to come. This were quite to vilify Providence, who is one of the principal guards of man. For though it be true that nothing is so certain but that it may sometimes fail, yet we see it seldom does; and even probability is almost certain. Let not man so sleep in content as that he neglect the means to make himself more happy and blessed; nor yet when the contrary of what he looked for comes, let him murmur or repine at that providence which disposed it to cross his expectation. I like the man that is never content with what he does enjoy; but by a calm and fair course, has a mind still rising to a higher happiness. But I like not him that is so much discontent as to repine at anything that does befall him: let him take the present patiently, joyfully, thankfully. But let him still be soberly in quest for better, and indeed it is impossible to find a life so happy here, as that we shall not find something we would add, something we would take away. The world itself is not a garden, wherein all the flowers of joy are growing; nor can one man enjoy them. If it were that all were here, we may questionless conclude that there is no absolute contentment here below. Nor can we in reason think there should be; since whatsoever is created, was created tending to some end; and till it arrives at that, it cannot be fully at rest. Now we all know God to be the end to which the soul tends; and till it be dismanacled of the clogging flesh, it cannot approach the presence of such purity, such glory: when it meets with God, and is united to him, who is the spring and source of all true happiness, then it may be calm, and pleased, and quiet; till then, as physicians hold of health that the best is but neutrality, so it is of happiness and content in the soul. Nay, the most absolute content man can enjoy, in his corruptible rags of earth, is indeed but lesser discontentment. That which we find here most perfect, is rather mere utopian and imaginative, than real and substantial, and is sooner found falling from a poet's pen, than any way truly enjoyed by him that swims in the deepest stream of pleasure.—*Owen Feltham's Resolves.*

CHINA.—No. V.

BRIDGES OF CHINA.

A GREAT number of such canals as were described in our last paper, traversing cities and the country in all directions, render necessary a number of bridges, and these bridges are indeed as numerous as might be be expected from an ingenious and industrious people exceedingly provident for their own convenience and comfort. From the amazing facilities afforded by the canals for transporting weighty burdens by water, these bridges do not require to be built of great strength, as every object of produce or manufacture can be wafted over on rafts or in barges. In general, indeed, only foot-passengers use the bridges, which are, for the most part, of a light but fanciful and elegant construction. They are found of three, five, or seven arches; the centre arch being frequently from thirty to forty-five feet wide, and sufficiently high to let vessels pass without striking their masts. Some of them stride across the canal with one bold, lofty arch. The elevation of these bridges renders steps necessary. They resemble in this respect the old bridges of Venice, on which you ascend by steps on one side, and descend on the other in the same way. The wood-cut in page 397 represents one of these bridges, and the reader will readily conceive the beautiful effect produced by a number of these light structures, succeeding each other at short distances, for miles and miles, where the canal runs in a straight line. Some of these bridges are of extraordinary beauty, and even magnificent. There is one near Pekin, built entirely of white marble, elaborately ornamented. Others are found over the canals of still greater magnificence, and with a grand triumphal arch at each end. And others again, instead of being composed of salient arches, are flat from one side of the canal to the other, stones or marble flags of great length being laid on piers so narrow and airy, that the bridge looks as if it were suspended in the air. It is a somewhat curious fact that the Chinese censors have considered these numerous bridges as luxuries, and have more than once reproached the emperors for erecting them. A bridge, constructed in the eighth century, of iron and bronze, was one of the subjects of their reprehension, which fell very severely on an emperor of the dynasty of Souy, who built forty bridges, all in different styles of architecture, in the single city of Sou-Tcheou.

But these canal bridges are immeasurably surpassed in magnitude, and occasionally in beauty, by the bridges thrown across rivers, or long swamps, and places exposed to inundations. Some of the latter are of prodigious extent, and have triumphal arches on them, built of wood, in the pagoda style, and splendidly painted. One of the most celebrated of these is the bridge of Loyang in the province of Fokien. It was seen and described by Marco Polo, and the author of the 'Atlas.' According to the latter authority, who saw the bridge twice, it is 5940 feet long by 101 feet broad; it has no arches, but is formed of 300 massy stone piles, over which are laid horizontally large stones of an equal length, which repose on the columns or piles, and afford a flat convenient passage from one side to the other. The piles rising out of the water are shaped like a boat or barge with a sharp bow, the acute angle being directed against the current, that they may suffer the less from the violence and lashing of the waves. The horizontal stones, which the author of the 'Atlas' measured by walking leisurely over them, are twenty-two paces long by two broad, "so that there are," he adds, "1400 of these mighty stone beams all alike,—a most stupendous work; and to prevent the passengers falling off, there are balustrades with lions cut in stone on both sides of the bridge, with many other ornaments." The whole of the bridge is built of one sort of black hewn stone. Where this bridge stands there was formerly a ferry, which was rendered extremely dangerous by the rapidity and violence of the stream.

In the province of Fokien there is another majestic bridge over an arm of the sea, built of yellow and white stone. It is 2475 feet long, and 8½ feet broad; has 100 very lofty arches, and is adorned with sculptures of lions and other animals, in the prevailing taste of the country. The Chinese described to the missionaries a similar bridge, but of nearly twice the length, as existing near the city of Focing.

The Chinese have, besides, numberless bridges of boats, which correspond with those in use in Europe; and they have, and had long before we adopted them, suspension bridges, built on the same principle as our bridge at Hammersmith.

There is especially in the province of Kiangsi, where the rivers Chang and Can meet in one, a very long bridge, built upon 130 boats, fastened to one another

with chains, upon which are laid the timbers and planks that compose the bridge: one or two of these boats open and shut for the passage of vessels, which pay a regular toll.

Of their suspension bridges the most celebrated seems to be that in the province of Junnan, which traverses a very deep valley and an impetuous torrent. It was made in the year 65 of our era. The Missionary Kircher describes it with all the astonishment naturally resulting from its novelty to him; for the plan of suspension bridges, of which we have now such beautiful specimens in England, was not adopted by the Europeans until two centuries after that traveller's death. "This bridge," says he, "is not raised with the cementing of vast stones or brick work, but with iron chains fastened at either end to rings or hooks, so placing the bridge to beams above: there are twenty chains, and every one consisteth of twenty perches; many persons passing over together, the bridge moveth hither and thither, possessing the passengers with giddiness and fear of the ruin and fall of the bridge, so that I cannot sufficiently admire at the dexterity of the Chinesian architects, who durst undertake so many and difficult works for the conveniency of passengers."

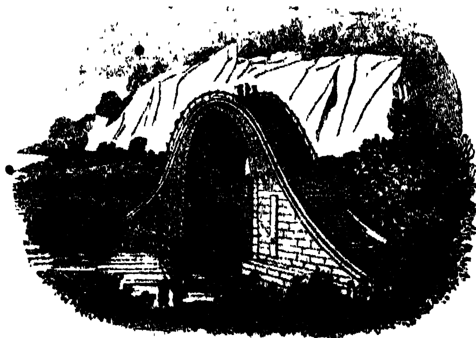
In addition to their bridges, simply for the passage over waters, they have an immense number of others to level their roads, thrown from mountain to mountain, over deep ravines; and these are frequently approached by excavations and by roads hewn out on the mountains' sides of extraordinary dimensions and difficulty. In the Alpine regions of the province of Xensi, there is a succession of these bridges and works for about ten miles. This road, which is for the most part over bridges, or along the sides of mountains which have been cut and pared down at an enormous expense of labour, is said to have been made by the general of an army of many hundred thousand men. The bridges are in some places built of enormous beams and spars laid from cliff to cliff, and supported by beams placed under them, which rest on the sides of the cliffs, much like the wooden bridges so common in Switzerland and other mountainous countries of Europe; in other places, where not a narrow ravine but a wide deep valley is to be crossed, the road is supported by pillars of immense height and thickness, which rise from the bottom of the valley to the level of the mountains. For a third part of the road these bridges are so lofty as to fill with alarm those who dare look over their sides into the abysses beneath them: they are sufficiently wide to allow four horsemen to pass abreast, and they have all rails of wood and iron on both sides. This road was made to shorten the journey from the city of Hanchung to the great city of Siganfu, which was before of excessive length and tediousness.

In the same province there is a bridge of stone of 400 cubits long, of one bold arch, through which flows a river, built from mountain to mountain. The height of the road on the bridge to the level of the water, is said to be 825 feet. The Chinese call this the flying bridge; and Kircher compares it, though it differs in many of its features, particularly in the capital one of having a single arch, to the bridge and aqueduct in the south of France, called Le Pont du Garde—one of the grand works of the ancient Romans.

In some parts of the empire many of the bridges are roofed, and are covered on each side with shops, as was our old London Bridge in former ages. At Sechuen, a city intersected by rivers and canals, and navigable nearly everywhere like Venice, there is a vast number of this kind of stone bridges. From one extremity to the other of them, there is a row of pillars on each side, which support the roof; for here the bridges have very handsome roofs, constructed of wood, ornamented with paintings of a red colour, and covered with tiles. Throughout the whole length also there are neat apartments and shops, where all sorts of trade are carried on. One of the apartments, larger than the rest, is occupied by the officers who collect the duties upon provisions and merchandise, and a toll from persons who pass the bridge. According to P. Martini, the author of the 'Atlas Sinensis,' the shops or booths were set up in the morning, and removed from the bridge at night.

We have already given the reader to understand that the number of bridges is, as it must be from the number and extent of the canals, most prodigious.

At Kin-sai, "the celestial city," the ancient capital of Southern China, Marco Polo was told there were 12,000; and though, as Mr. Marsden remarks, the truth must be here outstepped, "yet when we consider that according to the description given of the city, the communication between all its parts was chiefly carried on by water—that through at least every principal street there ran a canal, and that in order to facilitate the intercourse of those who dwelt on opposite sides of the same street, it was necessary to have numerous means of crossing,—we shall be disposed to allow that the total number of everything coming under the denomination of a bridge, especially if those of the suburbs are included, must have been prodigious*." The arches of some of the principal of these bridges, not only here, but in other parts of China, are so high as to admit of vessels passing under them without striking their masts. This is mentioned by Marco Polo, and has since been confirmed by many. "They have built an infinite number of bridges;" says P. Le Comte, "these are of three, five, or seven arches; the middle arch is of an extraordinary height, in order that the barks in passing be not obliged to lower their masts." "From all the suburbs," says Du Halde, in his description of a city in the neighbourhood of Kin-sai, "one may approach, and enter, and go everywhere about the town in a boat. There is no street without a canal, and this is why there are so many bridges, which are very lofty, and almost all of one arch." And we may conclude with the observation of Mr. Barrow:—"Over the main trunk and most of the other canals and rivers, are a great variety of bridges. * * * Some have the piers of such an extraordinary height, that the largest vessels of 200 tons sail under them without striking their masts."



[Chinese Bridge.]

CHAMBER OF REPRESENTATIVES AT WASHINGTON.

The city of Washington is the seat of the general government of the United States, and is therefore the metropolis of the country, although of small relative population, and of no importance in a commercial point of view. It is situated in what is called the district of

* 'Trav. Marc. Pol.' Note 1008.

Columbia, a portion of territory distinct from all the states of the Union, and appropriated by common agreement as the site of the capital. It is singular, or nearly so, in the history of this city, that instead of having, as an already existing city, become in the progress of time the metropolis in consequence of its relative importance or advantageous situation, it was from its first foundation intended for the metropolis of a great and civilized empire, and the site was selected and the plan arranged with an exclusive view to that destination. There seems, however, to have been an oversight in the original calculation. No city ever did become great in a day; and the founders of Washington committed a rather serious mistake in supposing that the new metropolis would form an exception. Washington became the capital of the United States in 1800; but only a small part of the ground embraced within the plan is yet built upon; neither are the parts which are actually built so disposed as to display that plan to advantage. The best way would have been to have built off regularly from the centre, from whence it might, in the course of years, have extended itself in the manner which the plan required. Then, although in its early stages the town might have seemed small, it would not have had that incomplete appearance which it now presents. As it was expected that the ground would be built upon more quickly than it actually has been, many buildings were erected in streets which have not yet been filled up, and are not likely soon to be so. The effect of this is bad in a general view of the city, and prevents a stranger from fully appreciating the merit of the plan on which it was destined to be built. A few words may enable our readers to understand that plan, as it appears on paper.

In a parallelogram, nearly five miles in length by more than two in breadth, streets running north and south are crossed by others extending east and west, while those which are called "avenues" traverse these rectangular divisions diagonally, and are so laid out as to afford the most direct communication between those places which are deemed the most important or which furnish the most agreeable prospects. Where these avenues form acute angles with the streets by their intersection, there are reservations which are to remain open. The avenues are named after the several states of the Union, and the streets are designated numerically or alphabetically, beginning at the capitol, which is in the centre of the city. Thus, those extending north and south of it are designated by the letters of the alphabet, as, A North, A South, &c.; and those east and west of it being numbered, as, 1st Street East, 1st Street West, &c. The avenues and streets leading to public places are from 120 to 160 feet wide, the others from 70 to 100 feet.

In August, 1814, Washington was taken by the British under General Ross and Admiral Cockburn, who set fire to the capitol, the president's house, the public offices, the arsenal, the navy-yard, and the bridge over the Potomac. It must be lamented that the British could by any considerations be induced to stain by such an action the credit they had won by the capture of the city. It is the more to be lamented when we attempt to calculate the natural effect of such an act in strengthening unpleasant and indignant feelings towards this country, on the part of those whose national pride had been so sensibly wounded. It must be, on both sides, by far other acts than this that the time must be hastened when the waters of the Atlantic shall become wide enough and deep enough to drown all uncharitable and unkind feeling between nations which are so nearly allied in all that ennobles man, and which are made to differ only in and by those things which degrade him. For several years after this event the American Congress were obliged to assemble in a building erected for them by the citizens of Washington. But all the damage has now long been repaired.

The capitol, to which we shall now limit our attention, is a large and handsome building, excellently situated upon elevated ground. It is built with freestone, and is composed of a centre and two wings, in the Corinthian style of architecture. The length of the whole is 350 feet, the depth of the wings 121 feet, and the height to the top of the central dome 120 feet. It covers an acre and a half of ground, and cost three millions of dollars. A Corinthian portico extends the length of the centre, which is occupied by the rotunda, which is 96 feet in diameter and height. This rotunda is entirely of marble, except the doors and the frame of the skylight. It is ornamented with figures in relief, and contains paintings by Colonel Trumbull, each representing some point of striking interest in the early history of some of the states.

In the basement-floor of the south wing of the capitol the Supreme Court holds its sittings; but with this exception, the whole building is appropriated to the legislative business of the only great republic in the world. The chamber used by the Senate, or, as we should call it, Upper House, is in the north wing of the capitol, and the Chamber of Representatives in the south wing *. The interior of the latter is represented in our wood-cut. It is a splendid semicircular hall, in the form of an amphitheatre, ninety feet across and forty feet in height. It is surrounded by twenty-six columns, composed of breccia found in the neighbourhood, with a highly-decorated entablature of white marble, and standing on bases of freestone, giving support to the fine dome of the chamber. The gallery for the public, which is raised about twenty feet above the floor, extends along the whole circuit behind these columns. In the centre of the chord below sits the Speaker, from whose chair seven passages radiate to the circumference, while the members sit in concentric rows facing the speaker; the whole arrangement being in form not unlike that of half the web of a spider. Each member has a fixed place,—a comfortable stuffed arm-chair, and before him a writing-desk with a drawer underneath, of which he keeps the key. It is easy to procure at the door a copy of an engraved plan of the house, which points out the name of each member, so that a reference to it is sufficient to make every member known to a stranger.

A wide passage skirts the base of the columns, between each of which there stands a sofa, on which the members, or such strangers as have the entré granted them by the Speaker, may lounge at their ease. Ladies are not admitted to come upon the floor of the house but only into the gallery. Foreigners are usually accommodated in an excellent place at the back of the Speaker's chair; a place with comfortable seats for the reporters of newspapers is also provided in the same quarter of the house.

Travellers very generally complain that this noble

* The American "Congress" corresponds to our "Parliament" as applied to both houses. The Senate, or Upper House, consists of two members from each state, chosen by the local legislature for six years. They are divided into three classes, so that one-third of the whole is, or may be, changed every second year. No person is eligible for a senator unless he is thirty years of age, has been nine years a citizen of the United States, and is, when elected, an inhabitant of the state for which he is elected. The House of Representatives is composed of members chosen every second year by the people of the several states. Their number is in proportion to the population: there cannot be more than one representative for every 30,000 persons; and the present proportion is one to every 40,000. In estimating the proportion, three-fifths of the slaves are added to the total number of free persons. Every state, however small may be its population, is entitled to at least one representative. The qualifications for a member are, that he should be a resident of the state for which he is chosen, that he should be twenty-five years of age, and have been seven years a citizen of the United States.

and highly-convenient apartment has one very serious defect—that of being but badly adapted for hearing; and its failure in this important point may furnish a useful caution to the architects who are engaged in planning new apartments for our own legislative assemblies. Speaking of this defect in the hall of the American representatives, Captain Basil Hall says,—"Were it actually a theatre, and the audience seated where the members are placed, while the actors addressed them from the corridor or open space behind the Speaker's chair, along the diameter of the semicircle, I dare say it might do very well; because the Speaker, when addressing the house from the chair, was heard distinctly enough by the members. It was always difficult, however, for any member of the house to make himself heard. I spoke to one of them about this essential defect. He replied, that, for once in America, utility had been sacrificed to beauty, 'which,' said he, good humouredly enough, 'you must do us the justice to say is not often the fault of this country.'"

While the house is sitting, neatly-dressed boys run about carrying messages between the members, or between the clerks and the members, and delivering such letters or papers as may be necessary. As Mr. Stuart remarks, the employment of little boys in this manner is attended with the advantage, that they are much less in the way of the speakers or members, and can move about among the desks without deranging the papers. When a member rises to speak, one of these boys runs for a glass of water which he places on the desk, in case the orator should need such refreshment while speaking.

The members usually address the house from the space between the desks, where there is ample room for them. The forms of conducting the business of the house is pretty much the same as in our own legislature; but Mr. Stuart states it as his impression that in the American chambers much more order and decorum prevails than in our own House of Commons. He says,—"The most complete silence prevails in the Senate; and there is very little interruption to it in the House of Representatives. Members are never browbeaten nor coughed down, nor are the 'hear, hear,' and other cries which prevail in the British House of Commons, at all tolerated. Any of the States would look on itself as insulted if its representatives were to be used slightingly or contemptuously in the great council of the nation." But although speakers are not interrupted by expressions of applause or disapprobation, and every member of Congress is allowed to speak to any length he pleases without interruption, it seems from Captain Hall's account that there is not a corresponding degree of attention paid to what is said:—"For, independently of the reverberation of sound from the dome, or the waste of it in filling the intercolumniations, there are other sources of disturbance constantly going on, which drown a great part of what is said. Except when some remarkably good speaker has 'possession of the floor,' the members, instead of attending to what is spoken, are busied in conversation—in writing letters—rapping the sand off the wet ink with their knuckles—rustling the countless number of newspapers which deluge the house—locking or unlocking their drawers—or moving up and down the avenues which divide the ranges of seats." Indecorums as great, or even greater than these, though not all of the same description, are frequent enough in our own House of Commons, while many other disturbances are quite peculiar to ourselves.

The discursive character of the American senatorial eloquence has given occasion to much animadversion. It is not peculiar indeed to the Americans, but it is perhaps nowhere so remarkably exemplified. It is not considered the business of the speaker, or of any of the members, to require the orator to keep to the subject properly before the chamber; and hence he frequently diverges into a number of points very remotely, if at all, connected with the matter in hand, until it often happens that the professed subject of discussion is completely lost sight of, not only in a single speech but in an entire debate,—as it not unfrequently occurs that discussion arises on subjects brought forward in one of the speaker's branch orations. It thus "sometimes happens," says the author of 'Men and Manners in America,' "that the topic immediately pressing on the attention of the assembly, by some strange perversity, is almost the only one on which nothing is said."

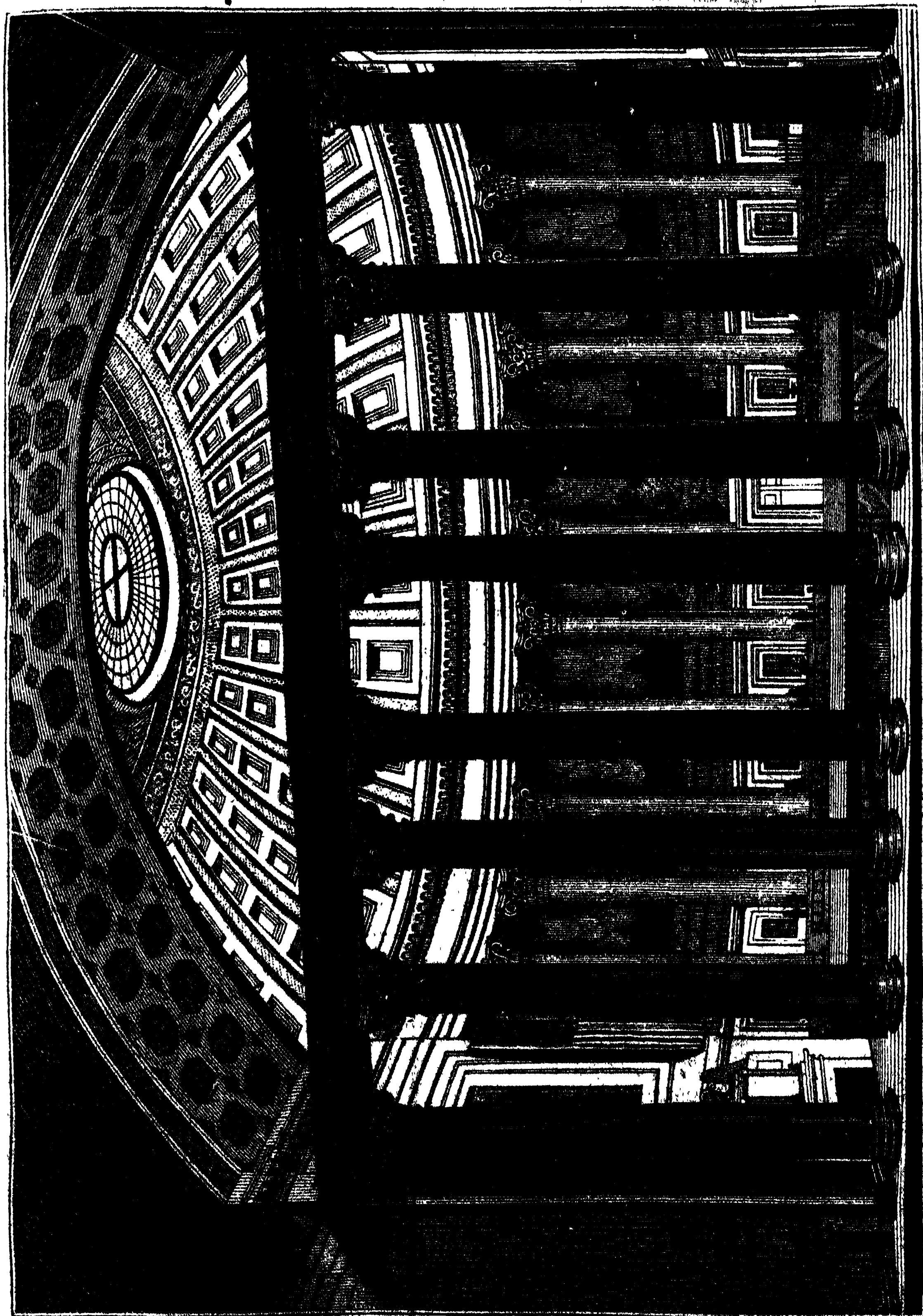
All this, and the proverbial lengthiness of the speeches in the American legislature, appears to result from the necessity which the members seem to feel of keeping themselves before their constituents through the public press. If it be true that the latter consider their interests neglected and their consequence compromised if their representative allows any interesting question to pass without engrossing some portion of the attention of the assembly, it is evident that there must be a large proportion of discursive and lengthy speeches, when men must speak who have little acquaintance with the subject before the Chamber, or who have not the gift of brevity, and have not studied logical exactness. The same effects would ensue in the British House of Commons if the same principle of talk operated there—as, to some extent, it actually does. The author of the work last quoted hints another cause of the enduring toleration with which long speeches are received;—this is, that the chamber, as such, has little practical work to do; and, on consideration, we are inclined to give more weight to this than it at first appeared to claim. For not only, as this author states, do all the multiplied details of local and municipal legislation fall within the province of the separate state governments, but as we gather from Mr. Stuart's book, almost all the business of the House is in the first instance considered and prepared by permanent committees, which are appointed by the speaker at the beginning of each session. Each committee undertakes subjects of a particular class, as finance, or foreign relations; and its report on that which has been submitted to its consideration is, in the majority of instances, received without discussion. This of course saves time to the chamber itself, and if the members choose to employ it in hearing and making long speeches, we have no right to complain, if their constituents are satisfied.

Whatever be the cause, it is certain that there is no deliberative assembly so distinguished for the awful length of its speeches as the American Congress. An oration of eighteen or twenty hours is no uncommon occurrence in that assembly: not consecutive hours, of course; and perhaps it would be a good plan, if in America it were felt desirable to curtail the speeches of legislators, that there should be a regulation obliging each member to deliver all his speech in one day. As it is, the author of 'Men and Manners' informs us that one may continually read in the public papers such announcements as the following:—

"In the House of Representatives yesterday, Mr. Tompkins occupied the whole day with the continuation of his brilliant speech on the Indian question, and is in the possession of the floor to-morrow. He is expected to conclude on Friday; but, from the press of other business, it will probably be Tuesday next before Mr. Jefferson X. Bagg will commence his reply, which is expected to occupy the whole remainder of the week."

The practice of postponing a speech probably arose from the short period daily which the sittings of the chamber occupy. From noon to three in the afternoon is the usual time, unless a special order be made for continuing the debate longer, which often happens at the

end of a session. Many persons who would hesitate to speak six hours at a stretch, will experience no difficulty in occupying three hours daily for a week together. It is very usual for members to print their speeches in a pamphlet, chiefly for circulation among their constituents; and no doubt many speeches are delivered with a principal view to their subsequent appearance in print.



[The Chamber of Representatives at Washington.]

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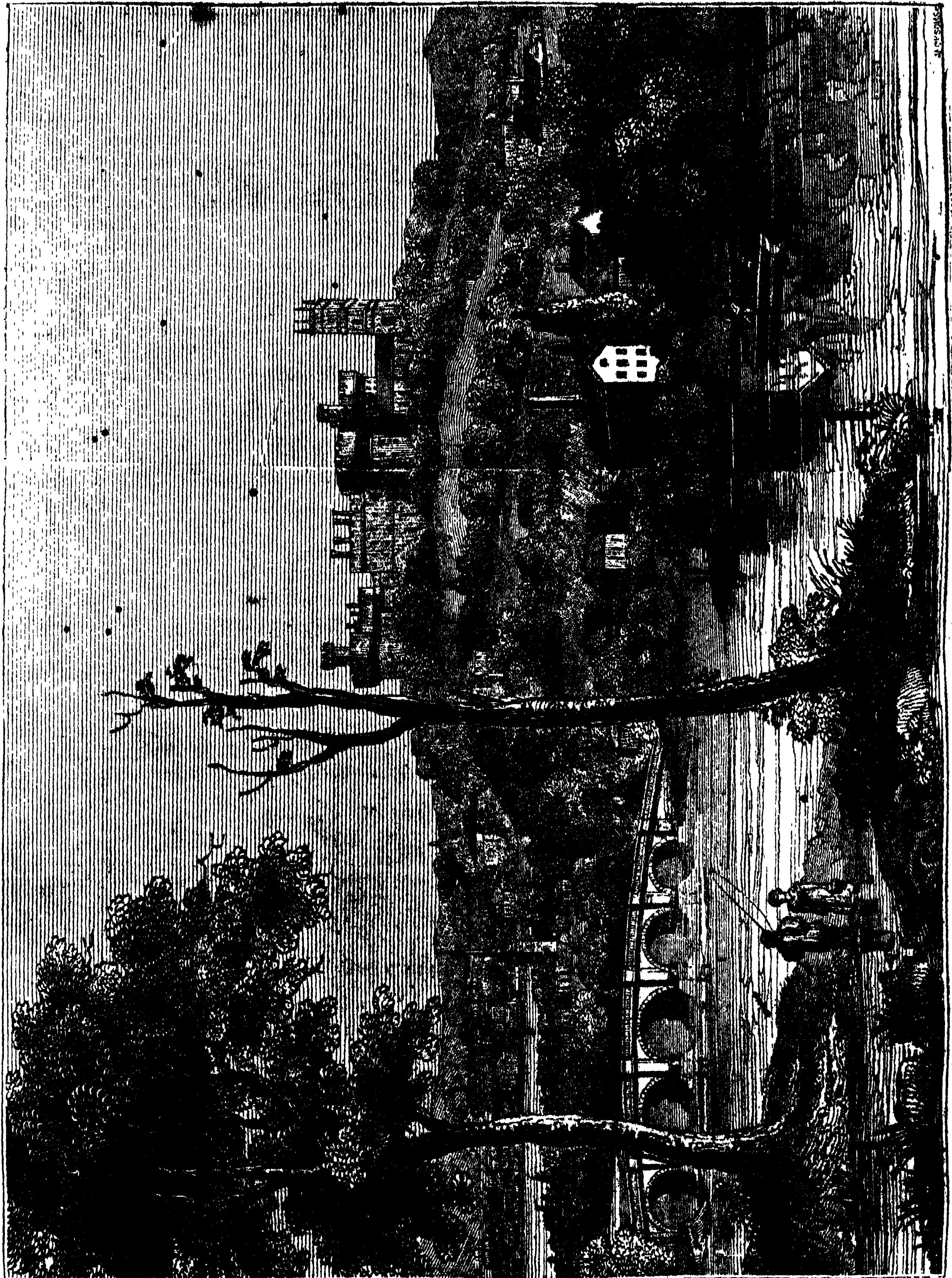
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LANCASTER.



Lancaster.

Lancaster, the county town of Lancashire, is situated on the western coast of England, upon the southern bank of the river Lune, at the distance of eight miles from the sea. It is distant 239 miles north-west from London by the road, but the direct distance does not exceed 206 miles. Lancaster is a very old town. There are doubts as to the name by which it was known to the Romans, by whom it is supposed to have been built;

but there is no question that it formed the station of a Roman legion. It seems indeed to have been considered a station of considerable importance, not only as a check upon the natives of the north, but also as a point of defence against the Irish, who, in the decline of the Roman power, subjected that part of the country to great annoyance and distress by their piracies and marauding incursions. Domestic, sepulchral, religious, and other Roman antiquities have been often found in and near Lancaster. The termination *ceastre* or *caster* would alone indicate that the Romans had a fortress here, it being a corruption of the Latin *castrum*, applied by the Saxons to places which they found fortified. The name *Lun-ceastre*, corrupted to Lancaster, therefore signifies a fortress on the river Lune. The history of all towns with important castles is intimately connected with that of the castle. In such cases the castle is usually the parent of the town, which for a long time depends upon it and shares in all its good and evil, until the town acquires maturity and strength, and comes to have resources independent of the castle, which is destroyed by violence, or gradually perishes through age and neglect, or else is preserved for purposes very different from its original destination. This is illustrated in the history of Lancaster.

It seems that, when the Romans left the island, the Picts and Scots, exasperated by the repulse and resistance which they had always experienced at this place, attacked the town and demolished the fortifications. The excellent and commanding situation of the spot early attracted the notice of the Saxons, who, soon after their arrival, appear to have restored some of the dwellings, and to have rebuilt at least some parts of the castle. We know little of the history of Lancaster under the Saxons, but that it was considered the most important place of the district is evinced by its being constituted in the seventh century the chief and designating town in the county. It probably owed this distinction to the castle; for, as a town, it could not have acquired much importance under the Saxons, or if so, the Danes, in their incursions, must have destroyed all traces of it; for when the Domesday Survey was taken, soon after the Conquest, "Lon-castre" and "Chercha-Loncastre" are registered as two vills among the twenty-two which composed the manor of Halton, belonging to the crown. Lancaster, however, had the good fortune to attract the notice of Roger de Poitou, a neighbouring proprietor, as offering a more eligible site for a baronial castle than his own domain afforded; and he obtained a grant of the property from the crown. As early as 1094 we find this person making a grant to the abbey of St. Martin de Sees, in Normandy, of the church of St. Mary, then newly erected by him. The Castle appears to have been built about the same time, the foundations of the old structure, and some other parts that could be made available, being probably retained. At a subsequent period the castle received some improvements from the Earl of Morton and Lancaster, afterwards King John, who, subsequently to his accession to the crown, gave audience here to the French ambassadors, and received the homage of Alexander, King of Scotland. But the castle, and therefore the town, owed its chief importance to Edward III., and his son John of Gaunt. When John was created Duke of Lancaster, his dukedom was made a county palatine, and the duke was endowed with powers and privileges which rendered the palatinate a petty kingdom, of which the town of Lancaster became the capital. It appears that in consequence of this the castle was considerably enlarged, and that a household was established here suitable to the dignity of the proprietor and the customs of the times. It is easy to perceive how these circumstances would operate in increasing the population and prosperity of the town; and how the town must have been dependant in those times on its connexion with the castle. Its loyalty, however, to the House of Lancaster exposed the town to so much calamity during the war of the Roses, that it is said to have been nearly depopulated. Its subsequent revival was not rapid. Even in Camden's time the town was chiefly occupied by husbandmen; but on the confirmation of the town-charter, with the addition of new privileges by Charles II., Lancaster again began to revive; and it afterwards went on progressively augmenting its commerce, its local trade, and its buildings. The first incorporation of the town by charter was in the reign of Richard I.; and the charter has been confirmed and modified by several subsequent monarchs.

The town is very advantageously situated upon a gentle ascent, the summit of which is crowned with the castle and the church, so that the whole, in a general view, has a commanding appearance. The river Lune makes nearly an acute angle on the north side of the town, whence several regular streets proceed to the south, leaving these two principal public buildings somewhat detached. A handsome stone bridge, with five elliptical arches, which was built at an expense of 12,000*l.*, connects the town with the township of Skerton on the other side of the river. The streets in Lancaster are commonly narrow, though there are some of considerable width; but the houses are generally good, with a due proportion of superior mansions in the town and of elegant villas in the pleasant environs. The houses are generally built with freestone, which is found in the neighbourhood, and are covered with slate. Considerable improvements in the general appearance of the place have been made within the last fifty years. It is altogether a superior town for its size, possessing some advantages which are not always found in towns of still greater population. There is a theatre, assembly-rooms, convenient public baths, a book-society, a mechanics' institute, and a well-supported society for the promotion of the fine arts.

At present, as in former times, the castle forms the crowning glory of Lancaster. The commanding situation and massive character of this spacious castle must have rendered it in former times not only a formidable fortress, but an object of great grandeur in the local scenery; and even now, although, in adapting it to its present uses as a prison and court-house, it has been necessary to sacrifice much of its ancient aspect and character, it has still a most imposing appearance. The extensive additions and alterations have been, so far as practicable, adapted to the original style, with much good taste and judgment; so that the whole now forms not only the grandest and most complete county-jail in England, but is still entitled to be considered as one of the finest castellated structures in the empire. The importance and extensive scale of the additions which have been made may in some degree be estimated by the cost, which has amounted to not less than 140,000*l.*

The encircling walls embrace an area of 380 feet from east to west by 350 feet from north to south, which space comprehends an extensive court with smaller courts, and several towers of different form and dates of erection. The finest of these towers is the gateway-tower, which forms the chief entrance. It consists of two large semi-octangular projections or towers, connected by a curtain and the gates. The whole of the summit has a bold, overhanging battlement, and each of the projecting towers is surmounted by two small turrets or watch-towers. This gateway is 66 feet high, and is commonly, and with good reason, attributed to John of Gaunt. This gateway conducts to the great court, which is enclosed with embattled walls and strengthened with towers. Nearly facing the entrance, at the opposite side of the court, is the large square tower (70 feet diameter) which formed the keep or citadel of the

ancient castle, and is supposed by some antiquaries to be of Saxon architecture; but the upper part was rebuilt in 1585, at the time of the threatened invasion of the Spanish Armada, when all the forts and castles in the kingdom underwent a thorough repair. The difference between this and the more ancient building is still very perceptible. The height of this tower is 78 feet, and it is surmounted by a turret (commonly called "John of Gaunt's Chair") which is 10 feet higher, and from which views of great extent and diversity are commanded. The walls of this keep are of amazing thickness and strength, and the apartments are of very grand dimensions: one of them, "about 63 feet long, having only four plain walls, and making nearly the proportion of a double cube," is particularly referred to by Mr. Duppa, in his 'Life of Michael Angelo,' as calculated to produce a great effect by simplicity of form, and grandeur of dimensions. The three other old towers are respectively known as the Dungeon Tower, the Well Tower, and Adrian's Tower, though the latter is more popularly known as John of Gaunt's Oven. All these are commonly attributed to the Romans; but, although some antiquaries are disposed to allow that the lower part of the last may have been Roman, it is doubtful whether the other two were even Saxon, and we see no necessity for giving them an earlier date than the buildings by Roger de Poitou. "Adrian's Tower" is circular, and it is used as a repository for rolls, records, and other documents relating to the official business of the county.

A minute description of the new buildings, forming the court-houses and prisons, would carry us beyond our present intention. It may suffice to state that the pile of buildings containing the shire-hall, courts, and grand jury room, form, in a ground plan, an irregular semicircle to the north of the great court. The shire-hall itself is a beautiful apartment, consisting of a semi-polygonal area, with an aisle going round it, and has a groined roof supported by six quadruple clustered columns. The seats of the judges are in the chord of the arc under elegant pinnacled canopies. The doors, windows, panels, seats, &c., are all finished in a style corresponding to the enriched ecclesiastical buildings of the fourteenth century.

The external or eastern wall of the keep, being prolonged to upwards of 200 feet, forms the chord of another semicircular arrangement of buildings for felons, whose apartments extend around the arc, while the area is divided into four courts which unite at the turnkey's lodge, which commands a view of the whole. Since these apartments have been erected fetters have not been used, except for refractory prisoners, as there is no danger of escape; the walls, inside and without, and the floors and roofs, being all finished with hewn stone. The apartments for crown prisoners, for debtors, and for females, form distinct piles of building on different sides of the great central court; and besides these great divisions, more minute classification is effected throughout. The jail contains seventeen divisions for this purpose. There are seventy-three work-rooms, thirty-two day-rooms, and twelve airing-yards. The great central area, which contains about 2800 square yards, is allowed for the exclusive use of the debtors, where they can enjoy the air and take exercise. The prisoners are variously employed, and a considerable part of their earnings is paid to them, part in weekly portions during their detention, and the rest on their discharge. Such of them as have learned no trade are taught something there which may enable them to earn an honest living, if so inclined, when again thrown upon the world.

Lancaster contains one parish-church and two chapels in connexion with the establishment. The church, dedicated to St. Mary, is on the same eminence with the castle, and is contiguous to it on the east. It was originally, as we have seen, founded by Roger de Poitou, who gave it with some lands to the Benedictine Abbey of St. Martin de Sagio, or Sees, in Normandy. A prior and five monks came over and took possession, forming a religious, or monastery, subordinate to the above abbey. On the suppression of alien priories it was annexed to the abbey of Sion in Middlesex, and so remained until the general dissolution in the reign of Henry VIII. In those times the church was one of those which enjoyed the mischievous privilege of sanctuary. The existing church is a large Gothic structure, consisting of a nave, two side aisles, and a handsome tower at the west end. It has few remains of antiquity, except some fine specimens of screen-work and carvings in oak. The church accommodates 3500 persons, and the living forms a vicarage, with the net income of 1709*l.* per annum. Most of the various denominations of dissenters have chapels in the town.

The manufactures of Lancaster are not considerable, and consist chiefly in the making of mahogany furniture, cordage, and sail-cloth, with the spinning of cotton and worsted yarn, and the manufacture of cotton goods, for which several factories have been established within these few years. Ships of considerable burden were formerly built here; but now only boats. The channel of the Lune being much impeded by accumulations of sand, vessels of considerable burden cannot come up to the town, but discharge their cargoes at the dock which was formed, in 1787, at Glasson, about five miles below Lancaster, from whence the goods are carried up to the quay of the town in lighters. The quay is not accessible to vessels exceeding 200 or 250 tons burden. This, co-operating with the want of extensive canal communications and the absorbing predominance of Liverpool, at one time operated badly on the trade of Lancaster. The Boundary Commissioners say, "The appearance and condition of the town of Lancaster is that of a decaying town: the whole of its West India trade has left it, and what remains of the other branches seems to afford but a scanty employment for a few sloops. At the same time that everything else appears to languish about the place, the public buildings exhibit no appearance of dilapidation." This was in 1832; things have since improved, for the Municipal Report, in 1835, says:—"In general the town may be stated to be in a very thriving condition. It was formerly an important port for the West India trade, but its prosperity declined as it was abandoned for Liverpool. Latterly, however, the port has been much used for the American, Russian, and coasting trades. A few years back there were numerous large warehouses unemployed; at present such can scarcely be found." The borough of Lancaster contained 2038 houses in 1831, when the population amounted to 12,613, of whom 7142 were females. In 1821 the population was 10,144. The increase is attributed to the establishment of cotton-factories.

The Lancaster canal opens a communication between this place and the mining districts, and supplies the neighbourhood with coal and other necessaries. About one mile north-east of the town is a grand aqueduct bridge, which conveys this canal over the river Lune. This great work was executed by Mr. John Rennie, the engineer, who acquired great reputation by it. At the spot where it has been built, the soft muddy bottom of the river rendered it necessary to lay a foundation at the depth of 20 feet below the surface of the water. This consists of a flooring of timber, supported by piles 30 feet long. This foundation alone is said to have cost 15,000*l.*, and the whole was not completed for less than 48,000*l.*, although the stone was obtained in the neighbourhood. The bridge consists of five circular arches, springing from rusticated piers with Gothic

ends. Each arch is 90 feet span, and rises 39 feet adove the surface of the water. The total height from the surface of the river to that of the canal is 51 feet; and barges of sixty tons pass over it.

A DAY AT KERMANSHAH.

[From a Correspondent*.]

[HAPPENING to be turning over my journals this morning, it occurred to me that the account which I found there of my proceedings and observations at Kermanshah contained some illustrations of Persia and Persian manners which might not be unacceptable to the readers of the 'Penny Magazine.' I have therefore written it out for you. It is not necessary that I should give any formal account of Kermanshah, but may just mention that it is the capital of a province, and a frontier-town of Persia on the side of Turkey. It is comparatively new as a town, having, not many years ago, been merely a village. It is not at all remarkable as a city, and does not possess any building of note, except the residence of the governor of the province, who is, I believe, a cousin of the present king. There is no speaking with certainty about its population, but I should scarcely suppose it to exceed 20,000.]

WE left the caravanserai between three and four o'clock in the morning, in order to reach Kermanshah before the heat of the day. The days indeed are very hot, although, since we ascended from the plain of Bagdad, the nights have become inconveniently cold. The contrast is quite great enough to make us understand the complaint of the patriarch, that "in the day the drought consumed him, and the frost by night." I compensated for an inadequate night's rest by a doze on horseback.

We reached the outskirts of the town about seven in the morning; and after riding through a well-kept cemetery, and along a walled road between gardens, got into the town, and were conducted through part of the bazaar to a caravanserai, to which it seems that strangers resort in the first instance to have their baggage and goods examined by a custom-house officer, after which they are at liberty to remove themselves and property wherever they please. As all the rooms were either appropriated or locked up, we remained broiling in the sun, on one of the benches, for about two hours, until the man found leisure to attend to us. At length he approached with a long knife in his hand, and as we could not undo the straps and cords of our baggage with sufficient expedition, he took the liberty of cutting them all open, without dreaming of asking our consent. In other respects his examination was slight and favourable, and we were for the time free.

While we remained here, and indeed during all the period of our stay in the town, we were much annoyed by men who came continually to offer carpets for sale. This indeed happens in many towns; but I never saw the carpet venders so numerous and importunate as at Kermanshah. The same person in some instances returned repeatedly, remaining half an hour or more at each visit, in the hope of overcoming our resolution not to purchase. The carpets which they offered were of course not large, being oblong pieces about the size of large hearth rugs, and which travellers usually carry with them, and spread upon the ground, during their halts, to sit upon by day and sleep on by night. They are of different qualities and prices. The best are worked by the needle with coloured worsteds, on a woven ground, in much the same way that mats for tea-urns are worked in England; the inferior sort are woven in colours throughout. It is well known that Persia has a good reputation for its carpets, and in Persia I have not learnt that any place has a higher reputation for them than this town. Not that here or anywhere else there are large manufactories, or indeed any manufactories. The carpets which are so much admired under the names of Persian and Turkey carpets, are principally wrought by the females belonging to the numerous wandering tribes. They devote to this employment, or that of weaving coarse cloth, all the time which they can spare from their very heavy domestic duties; and the product forms one of the principal commodities, the sale of which enables the Eelauts to obtain enjoyments from which they would be precluded if they were left to depend entirely, as they do mainly, on the produce of their flocks. Many of the finer carpets are said to be made by ladies in their private houses in the towns, and afterwards sent to be sold in the bazaars. Their object is to secure a private and independent purse, to increase their future resources or present enjoyments. That ladies of distinction should employ such expedients in Persia is not surprising, when we recollect that at Constantinople the ladies of the Sultan himself are not above such resources, for handkerchiefs embroidered by their hands are well known articles in the bezesteens of that great city. There is certainly, however, some difference between the making of carpets, and the embroidering of handkerchiefs with threads of silk, silver, and gold.

The caravanserai to which we removed was a very neat and quiet place; and we there secured the luxury of a room to ourselves. It is true that there was nothing but the bare walls, and the want of a window obliged us to remain with the door open. However, we were more than satisfied,

> "Nor look'd for entertainment where none was:
> Rest was our feast,—"

and on rest we feasted largely, both on that and the following day.

In the course of the day I went out into the bazaar—the place where the manners and humours of an eastern town may, in my opinion, be always studied to the best advantage. Nearly the first circumstance that attracted my attention was not well calculated to give a stranger any very gratifying impression concerning the usages of the country. I suddenly observed the artisans lay aside their tools and stand up, while there was a sort of rush among the numerous people in the bazaar, who hastily drew themselves up as closely as possible by the wayside before the shops. I followed the example, without being aware of the cause at the moment, but I soon learnt it, when I saw a body of men advancing at a quick pace, armed with heavy sticks, which they held aloft and flourished with no small energy. These staves are by no means articles of mere ornament, as they are applied vigorously to those who do not get out of the way with sufficient alacrity, or who do not manifest proper respect for the personage before whom the bearers walk. This quite satisfactorily accounted for the rush I had witnessed. After these men rode two well-dressed and well-mounted persons preceding a very handsome youth dressed in white, who rode alone, and who appeared to be the principal object of all this ceremony. He was followed by a body of about twenty-five foot soldiers, armed with guns, who closed the procession. From the presence of the soldiers I should have concluded that the young man was the prince-governor himself; and his youth opposed no difficulty to this conclusion, as the king sometimes intrusts the government of provinces to his sons or grandsons while mere lads. However, I knew that the actual governor was at least thirty years of age, and hence inferred that this youth was his eldest son, and therefore great-grandson to the king,—a conjecture in which I afterwards learned that I was right*. To be preceded by men with clubs

* Our present Correspondent will be recognized in the following paper as the 'Deaf Traveller,' who furnished several papers for this 'Magazine' in 1833.

* By our laws of primogeniture this lad would be now the heir apparent to the throne of Persia, and his father king. The latter is the son of the deceased eldest son of the late king, whereas the reigning monarch is the son of his deceased second son.

to clear the way is not a piece of ostentation peculiar to royalty in Persia;—men of official rank are similarly preceded by a number of men, proportioned to their means or their pretensions to dignity. It of course sometimes happens that, in the narrow streets of the towns, such processions meet, advancing in opposite directions. The *ferashes* (the men with clubs) then make it a point to exchange blows, in assertion of the dignity of their respective masters, unless there has been time to ascertain the pre-eminent rank of one above the other, when the men belonging to the latter give way. Much harm seldom ensues from these rencounters, as the men of consideration, being personally known to each other, ascertain by a glance their respective claims and act accordingly;—the one of inferior dignity giving way, and mutually giving way, on the ground of politeness and personal esteem, when the rank is equal.

I did not stay long enough on this occasion to make many observations; nor was I very anxious to do so, as I knew that we must remain another day at Kermanshah, and that I should thus have full opportunity of exploring its bazaar in all directions.

THE RIGHT HAND AND THE LEFT HAND.

It is a curious and not unprofitable question, whether the preference so generally given to the right hand as an instrument of action be a dictate of nature or merely an acquired habit? Men of great eminence have held different opinions on the subject. Sir Thomas Brown, who enters largely into the matter, on which as a physician he was well qualified to form an opinion, speaks with some hesitation, but ultimately decides that the left hand has as good a claim to preference as the right; and Dr. Franklin afterwards contended for the equal claims of both hands. But Sir Charles Bell, in his recent 'Bridgewater Treatise on the Hand,' determines that the right hand has a just and natural claim to the preference it receives; and this opinion will probably be generally considered as setting the question finally at rest. The object of the present article is to take such a retrospective view of the discussion as will enable us to include the principal facts and arguments, against and for the prior claims of the right hand over the left.

In considering this subject, the universal consent of all nations in the preference of the right hand seems to us to furnish a strong, perhaps an unanswerable, argument for the natural claims of that member. It is difficult to believe that nations, the most distant in point of time, the most remote in place, and the most unlike in their modes of life, should all concur in this point, if there were no dictate of nature for its foundation. Although the Chinese and some other oriental nations regard the left hand as the place of honour in their code of ceremonies, yet there is no nation which, as a nation, uses the left hand for practical purposes in preference to the right.

Sir Thomas Brown does not overlook this objection or seek to weaken its force. With a remarkable degree of candour, not unusual with him, he ransacks the world for instances which bear against the doctrine he desires to establish, and then, quietly remarking that "notwithstanding, in submission to future information," he is "unsatisfied unto great dubitation," applies himself to establish his own position.

The first argument by which he supports his doubt is from analogy; and it is an exceedingly weak one. He says, that if it were true that the right side is the most powerful in the human being, we might expect to find it the same in other animals. Yet, he says, we do not find that horses, bulls, or mules are generally stronger on the right side: and as for animals whose forelegs seem in some measure to supply the use of arms, they exhibit, if not an equality in both, a rather more frequent preference for the left than for the right, as instanced in squirrels, apes, and monkeys. The same is also observable in parrots, who more commonly feed themselves with the left leg than with the right. To all this it might be answered that the peculiar destination of man in the creation required in this, as in other instances, a peculiar adaptation not necessary to other animals, and therefore not extended to them. Besides which, the use of the left leg for feeding may be caused by the employment of the right for climbing or holding on, which would seem to imply greater strength in the right.

Sir Thomas Brown next states his impression, that the preference of the right hand is merely a matter of education in childhood, and that children, if untaught through imitation, would generally acquire an equal facility of using both hands, or would use indifferently the right or left. This opinion was not new, for Sir Thomas quotes Aristotle in support of it. But although disposed to contend that if children were left to themselves left-handed persons would be about as common as right-handed persons, he does not deny that it is best that all men should equally apply themselves to the constant use of one hand, "for there would otherwise arise anomalous differences in manual actions, not only in civil and artificial, but also in military affairs, and the several actions of war." This is an important admission, which may lead us to conclude that this useful object was expressly intended and provided for, instead of being left to the accidents of education. We believe it has been so; and that, although left-handed persons would certainly be more numerous if children were not subject to some control, their number would not be nearly so great as Sir Thomas imagined. The opinion that the preference given to the right hand is an acquired habit has been much extended since Dr. Franklin wrote his popular paper on the subject, and we find it entertained by many who do not think it necessary to act on his suggestions. We lately conversed with a friend on the subject, and found that he was quite of this opinion; yet when his experience was appealed to, he admitted that among his six children there was only one who had required any interference to prevent him from using the left hand rather than the right.

We can afford no more space to the learned physician's considerations on the subject, but proceed at once to Dr. Franklin, who, personating the left hand, addressed an ingenious epistle to the 'American Museum,' which has had a good deal of influence upon the popular opinion on this question. The left hand is made to contend that she is entitled to equal consideration with the right hand, and ought to be equally instructed, in order that if anything should happen to her sister (the right hand) she might be as competent for useful employment as the right hand could be if deprived of the assistance of the left hand. She is made to say,—

"There are two sisters of us, and the two eyes of man do not resemble, nor are capable of being on better terms with each other, than my sister and myself, were it not from the partiality of our parents, who make the most injurious distinctions between us. From my infancy I have been led to consider my sister as a being of more elevated rank. I was suffered to grow up without the least instruction, while nothing was spared in her education. She had masters to teach her writing, music, drawing, and other accomplishments; but if by chance I touched a pencil, a pen, or a needle, I was bitterly rebuked, and more than once I have been beaten for being awkward, and wanting a graceful manner. It is true that my sister associated me with her on some occasions, but she always made a point of

taking the lead, calling upon me only from necessity or to figure by her side."

We now come to Sir Charles Bell, whose remarks on this subject would be so much impaired by any abstract or modification, that we give them in full without comment or alteration:—

"In the conveniences of life, and to make us prompt and dexterous, it is pretty evident that there ought to be no hesitation which hand is to be used, or which foot is to be put forward. Is this taught, or have we this readiness given to us by Nature? It must be observed, at the same time, that there is a distinction on the whole right side of the body, and that the left side is not only the weaker in regard to muscular strength, but also in its vital or constitutional properties. The development of the organs of action and motion is greatest upon the right side, as may at any time be ascertained by measurement, or the testimony of the tailor or shoemaker. Certainly this superiority may be said to result from the more frequent exertion of the right hand, but the peculiarity extends to the constitution also, and disease attacks the left extremities more frequently than the right. In opera-dancers we may see that the most difficult feats are performed by the right foot. But their preparatory exercises better evince the natural weakness of the left limb, since these performers are made to give double practice to this limb in order to avoid awkwardness in public exhibitions; for if these exercises be neglected, an ungraceful preference will be given to the right side. In walking behind a person, it is very seldom we see an equalized motion; and if we look to the left foot, we shall find that the tread is not so firm upon it, and that the toe is not so much turned out as in the right, and that a greater push is made with it.

"From the peculiar form of woman, and from the elasticity of her step, resulting more from the motion of the ancle than of the haunches, the defect of the left foot, when it exists, is more apparent in her gait. No boy hops upon the left foot unless he be left-handed. The horseman puts the left foot in the stirrup and springs with the right. We think we may conclude that everything being adapted, in the conveniences of life, to the right hand, as, for example, the direction of the worm of the screw, or of the cutting end of the auger, is not arbitrary, but is related to a natural endowment of the body. He who is left-handed is most sensible to the advantages of this adaptation, from the opening of the parlour-door to the opening of a penknife.

"On the whole, the preference of the right hand is not the effect of habit, but a natural provision, and is bestowed for a very obvious purpose; and the property does not depend upon the peculiar distribution of the arteries of the arm, but is given to the right foot as well as hand."

THE VATICAN.

THE Vatican, which is one of the seven hills of old Rome, has always retained its ancient name, and in the ages when the papal power was at its height, this name was almost as significant and imposing to the Christian world as that of Rome itself had been to the Pagan nations. The excommunications and anathemas —" the thunders of the Vatican "—made emperors and kings tremble on their thrones, and often shook Europe from one end to the other. Princes and people looked with equal awe to the ecclesiastical palace on the hill, where spiritual arms, with the cross, the signet-ring, and the pen, wielded by a few infirm old men, decided the fate of "powers and dominions." After a long waning, the mighty planet of the Vatican disappeared and became for ever eclipsed, but still that immortal hill has a lasting hold on the veneration of mankind. The power of genius has survived the ecclesiastical power that most nobly patronised it. Michael Angelo and Raffaelle still reign there supremely, and as long as a touch of their pencils remains on the walls of that old palace, so long will the Vatican be dear to the civilized world. Let us also be just to the popes. The mild virtues—the patience under sufferings and wrongs —the truly Christian character of several of the later Roman pontiffs, may hallow their palace, and throw a melancholy yet pleasing interest over the walls wherein they dwelt in their feebleness, and where their predecessors revelled in their might.

> "Men are we, and must grieve when even the shade
> Of that which once was great is pass'd away."

The palace of the Vatican, which covers a good part of the hill, has few external features to recommend it to the lover of architecture, but, taken as a mass, its prodigious size and solidity are imposing. It occupies a space which is 1200 feet in length, and about 1000 feet in breadth. It is, however, rather an assemblage of buildings grouped and connected together than one palace, and the component parts have been erected at different periods, and by very different architects. A papal residence, humble and limited, as suited the confined authority and means of the bishops of Rome at that period, was built here early in the sixth century. This residence was rebuilt on a larger scale about the year 1145 by Pope Eugenius III. A few years afterwards, Innocent II. gave it up as a lodging to Peter II., King of Arragon. In 1305, Clement V., at the instigation of the King of France, removed the Papal see from Rome to Avignon, when the Vatican remained in a condition of obscurity and neglect for more than seventy years. But soon after the return of the pontifical court to Rome, an event which had been so earnestly prayed for by the poet Petrarca, and which finally took place in 1376, the Vatican was put into a state of repair, again enlarged, and it was thenceforward considered as the regular palace and residence of the popes, who, one after the other, added fresh buildings to it, and gradually enriched it with antiquities, statues, pictures, and books, until it became the richest repertory in the world.

Although, as we have said, the building itself has not much architectural beauty, its grand and capital accessory has a great deal. This is the staircase which forms the principal entrance, and connects the Vatican with the noble portico of St. Peter's. (See No. 108 of this Magazine.) It springs boldly from the base of the equestrian statue of Constantine, and in four majestic flights of marble steps, adorned with a double row of Ionic pillars, it reaches the threshold of the grand entrance-hall. It is the work of Bernini, and, taken altogether, it is probably the most magnificent staircase in the world. They call it "La Scala Regia," or the royal staircase, and the hall to which it leads "La Sala Regia," and royal works they are! The hall is of sublime length and elevation. It communicates by means of six large folding-doors with six other splendid apartments. Its walls are covered with frescoes painted chiefly by Vasari. Among his historical subjects are "The triumphant entrance of Gregory XI. into Rome, after the long stay of the popes at Avignon," and the execrable massacre of St. Bartholomew, which old Roman writers call "The *defeat* of the Hugonots." A better subject is the battle of Lepanto, painted by Taddeo and Federico Zuccheri; but there is another subject that vividly recalls the days when the tiara was more than the imperial crown. It is the Emperor Frederic I. prostrate, and kissing the foot of the haughty pontiff Alexander III. This fresco is painted by Francesco Salviati.

One of the grand folding-doors in the Sala Regia gives access to the Cappella Paolina, or the Pauline Chapel, which was rebuilt by Paul III. Like the Sistine, this is rather a church than a chapel. The altar is supported by pillars of costly porphyry, and

bears a tabernacle of rock-crystal. The walls are covered with paintings, but the general effect is dark and heavy. Towards the end of the hall, on the left, another door opens into the Cappella Sistina, which was built by Sixtus V. Here the sublime frescoes of Michael Angelo and his pupils thunder from the walls, and renew (while the astonished eye dwells upon them) some of the awe and terror that formerly attached to the Vatican. One end of the chapel is filled and crowded with the "Last Judgment," a vast and marvellous composition, which, spite of the criticisms of cold-blooded conoscenti, and the many faults it involves, will ever remain, like the poem of Dante, whence Michael Angelo drew a large portion of his inspiration, as one of the most sublime efforts of human genius. The smoke and dust of more than 300 years,—the sepulchral illuminations of the Passion week, when innumerable lamps and torches are burnt, and the lighter, but constantly renewed, vapours of the incense, have sadly blackened over these frescoes, but the compositions have been copied for centuries, the graver has multiplied them, and the best parts of the work cannot perish.

Opposite to the Cappella Sistina you enter the Sala Ducale, which is large and simple, and thence you can pass to the Loggie di Raffaello, which are a series of open galleries, in three stories, lining three sides of one of the spacious courts of the Vatican, called of San Damaso. Raffaello, and his scholars under his immediate superintendence, executed only a part of the frescoes on the walls of these galleries, but his tasteful creative mind traced the designs for all of them. The beautiful arabesques have suffered much from cold and damp. The history of the Bible from the creation of the world is painted on the arched ceilings of Raffaello's galleries. From one of these galleries a door opens into the Camere di Raffaello, which are covered with the frescoes of that greatest of masters. These rooms in themselves present a great and wonderful school of painting. They are totally unfurnished :—the cabinet-maker and the upholsterer had no business here;—the soul and hand of D'Urbino fills and beautifies them. Among the grand subjects he has treated in these chambers are 'Pope Leo and Attila,' the 'Judgment of Solomon,' the 'Coronation of Charlemagne,' and the glorious 'School of Athens.' We regret to add that here also the progress of decay is but too visible.

Crossing the court of San Damaso, and some chapels and halls which form the state apartments of the Vatican, the visiter comes to a vast well-lighted gallery, at one side of which an iron door admits him into the Vatican Library,—a magnificent range of building, covered with paintings throughout, and more than 1000 feet long. Several apartments branch off from this grand line: the Stanza de' Papiri, or room of manuscripts written on Egyptian papyrus before the introduction of paper, is covered with frescoes by Mengs. With a happy appropriateness, the designs, decorations, and marbles in this beautiful room are all in the Egyptian style. The books are, not kept in open shelves, as with us, but shut up in cases, which, as a recent traveller smartly observes, may conceal a great deal of wealth or a great deal of poverty. The truth however is, that, notwithstanding the spoliations of the French during the last war, when many rare works were abstracted which were not returned at the peace (as they ought to have been), the Vatican is still one of the large libraries of Europe, containing about 350,000 printed volumes and upwards of 30,000 manuscripts. By the treaty of Tolentino, in which the Pope was obliged to accept the hard terms usually granted by a conquering and rapacious power to a weak and defenceless one, the French were allowed to make their choice of 500 of the rarest MSS. They actually took away a great many more, but left some of the most curious untouched. A rich collection of Oriental manuscripts remains, and the Vatican is rich in old-written copies and printed editions of the Classics, to say nothing of books and papers connected with church-history and ecclesiastical matters. It is supposed that its less-disturbed cases and chests contain many documents that would tend to throw a light over some parts of British history; and, judging from our own experience, we should not think it so difficult to get at these materials as it has been imagined*.

In some respects the administration of the library and the collection itself may excite surprise. Nearly all the works in the Catholic index, that were produced in the sixteenth, seventeenth, and eighteenth centuries, are here, and a few years ago it was not difficult to obtain the reading of them in this stronghold of popery. We have known more than one Italian who made his first acquaintance with the philosophers and profane historians of France and England within the sacred walls of the Vatican. A curiosity very attractive to English visiters, and which is readily shown, is a 'Treatise on the Seven Sacraments,' which Henry VIII. sent to the Pope with the following orthodox distich :—

"Anglorum Rex Henricus Leo Decimo mittit
Hoc opus, et fidei testem et amicitiæ."

(Henry the King of the English sends this work to Leo the Tenth, in testimony of his faith and friendship.) Hence the title of "Defender of the Faith," (which meant the Roman Catholic Faith,) so long borne by our English sovereigns. The treatise, on somewhat doubtful authority, is said to have been composed by Henry, and the fair copy for the Pope is said to have been written with his own hand, but there is no doubt whatever that he despatched it to Rome.

Not far from the library are the magnificent halls and galleries of the *Belvedere*, which name has been given to the only true, the only "glorious Apollo" (in sculpture)—the matchless Apollo di Belvedere. This far-extending museum is lined with marbles, paved with ancient and modern mosaics, and filled with statues, vases, candelabra, tombs, altars, medallions, and medals. Specimens of Egyptian, Etruscan, Grecian, and Roman antiquities, are all found here; and never surely was there a *locale* built by modern hands so worthy of being a lodging to these ancient gems and treasures.

In addition to the Belvedere Apollo, which, left by itself, ought to attract all lovers of pure ancient art, this museum enshrines the group of the Laocoon and the Antinous. The Laocoon and the Apollo have been engraved for our Magazine. (See Nos. 39 and 45.) Among the fine specimens of modern Italian sculpture, the Perseus and Creugas of Canova stand pre-eminent.

Beyond these spacious rooms is the Galleria de' Quadri, or Picture Gallery. Here the collection, numerically considered, is not so large, but some of the master-pieces of painting glow on its walls. The Transfiguration by Raffaello, and the Saint Jerome by Domenichino, are such pictures as exist in no other place.

We have, of necessity, passed hastily over these treasures, because a simple list of them would occupy twenty times the space that we can spare, and because a catalogue would be neither instructive nor entertaining. For the same reasons we leave untouched many parts and compartments of the Vatican, in which the number of rooms, above ground and under ground, is truly astonishing, although we must think (considering the enormous size of most) that the statement of their amounting to 1800 is rather an exaggeration. We have heard Romans say that there are 1100; but an

* See 'Memoir upon the Materials for British History in Foreign Libraries and Archives,' in 'Proceedings of his Majesty's Commissioners on the Public Records,' (June, 1832—August, 1833.)

amusing mistake occurs in the 'Diary of an Invalid,' a clever work written by the late Henry Mathews, wherein it is said that "the number of rooms contained in the Vatican amounts to 11,000." This mistake, which has been repeated in successive editions of a popular book, probably arose from the author's having dotted down an 0 too much in his original numericals.

The whole superficies covered by fine fresco painting must be prodigious. In many of the spacious apartments the ceiling is painted all over, and the walls covered down to the very floor, the works of genius or of the most refined taste occupying all those spaces which are filled in other palaces by wainscoting, cornices, hangings and tapestry.



[One of Raffaelle's Galleries in the Vatican.]

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THE WHITE OR BARN OWL.



[White or Barn Owl.]

THE most common observer cannot fail to remark that there is a very considerable affinity between the falcon (*falco*) and owl (*strix*) genus of birds. Owls may indeed be regarded as a sort of nocturnal hawks; differing from them, as Linnæus remarked, much in the same way that the moth differs from the butterfly. Ornithologists enumerate eighty species of owls; but they admit that the number actually known is less numerous; the same bird, under a changed aspect, having in some instances been set down as a distinct species. The following may be stated as the characteristics in which they all agree. The bill is crooked, as in the falcons, but is not usually furnished with a cere; the nostrils are oblong, and covered with bristly feathers; the head is large, and so are the eyes and the openings of the ears; the tongue is divided; the toes are placed three before and one behind, the exterior toe capable of being occasionally bent backward; the exterior edge of one or more of the greater quills is serrated in most of the species. There are a few species which can see in the daytime, and are in the habit of then taking their prey; but owls are generally nocturnal birds, most of them seeking their prey by night, or rather in the twilight, at which time, or in the grey of the morning, they appear to distinguish objects best. There is no evidence that they can see when the night is very dark; the time, therefore, allowed them to hunt for prey is very limited, except on moonlight or other favourable nights, when they may be observed to seek their prey from night to morning. Limited as their time of providing for their wants usually is, they enjoy advantages which enable them to receive an adequate provision in a comparatively short time. In the hour when the owls seek their prey, the small animals and birds on which they feed are disabled from taking proper care of their own safety by flight or concealment, in consequence of that very want of full light which gives to the owl its perfect vision; and besides this, the quill-feathers of owls are in general so light and downy, and their flight is consequently attended with so little noise, that the objects of their pursuit have almost as little warning of their approach through the sense of hearing as through that of sight. Some owls, that are not properly qualified for it, venture abroad in the daytime, particularly in the winter and during the breeding season, and may then be seen followed and surrounded by small birds, who seem aware of the disadvantage under which their enemy then appears, and although they will not venture to attack him, seldom let slip so favourable an opportunity of insulting and abusing him

with impunity. It is observed that owls, as well as falcons, bring up the indigestible part of their food, such as hair, feathers, bones, &c., at intervals, in the form of large round pellets or balls, which are to be found everywhere in the neighbourhood of their retreats.

The beautiful species represented in our wood-cut is the common white or barn owl, technically called by some naturalists *strix flammea*, and by others *aluco flammea*, the former, however, being the most general denomination. Its usual weight is eleven ounces, length between thirteen and fourteen inches, and breadth across the extended wings three feet. The downy softness and remarkable elegance of the plumage of this owl are entitled to more admiration than they seem to have obtained. Superstition on the one hand, and the commonness of the bird on the other, seem to have prevented the beauty of the white owl from being duly appreciated. We shall not minutely describe the appearance of so common a bird; but may observe that the plumage is generally of a reddish-yellow colour with grey variegations, having black and white spots down the shafts of the feathers, and the breast and belly white, sometimes yellowish, and occasionally marked by a few blackish or dusky spots. The bill is straight to near the tip, instead of being arched from base to point as in the other species. The large eyes, the irides of which vary from nearly black to yellow, are surrounded by a large circle of soft white feathers; but the ruff is edged by a rufous or chestnut verge intermixed with white. The legs are feathered to the toes, which are covered with fine hair.

This species, with some variation from climate, is very extensively diffused over the world. It is well known in different parts of Asia, and in both North and South America: Le Vaillant says it is common at the Cape of Good Hope, where it is necessitated to make its nest among the rocks from the want of barns and other old buildings, which it naturally prefers. The Dutch colonists call it *doodvogel*, or "bird of death." It is frequent in most parts of Europe, and is perhaps nowhere more common than in this country, where its habits are well known to the farmer, whose barns furnish it with food.

The white owls chiefly live upon mice, which they swallow whole; but they will often destroy young birds. Mr. White, the author of the 'Natural History of Selborne,' mentions a pair, which infested a dove-house, and made great havoc among the young pigeons. This owl breeds in hollow trees, near farm-houses, and frequently in barns, or under the eaves of a church or other old building. It does not make any regular nest, but lays three or four eggs upon some woolly or downy substance placed in a very slovenly manner. It should be observed that these birds remain in barns, hay-lofts, and other out-houses during the greater part of the year, but take to the eaves of churches, holes in lofty buildings, and the hollows of trees, in the breeding season. They are almost exclusively found in inhabited districts, and their utility in clearing barns of mice renders their presence welcome to the farmer. During the time the young are in the nest, the male and female sally out alternately in quest of food, make their circuit, and beat the fields over like a setting-dog, often dropping down suddenly upon their prey in the grass or corn. Mr. White observed that they usually returned to the nest once in about five minutes. When they have no progeny to attend to, they remain abroad until they have satisfied their appetite, or are no longer able to see distinctly. In returning to the nest with prey they carry it in their claws; but they usually alight on the roof, and shift it to their bill that they may have the assistance of their talons in getting to the nest under the eaves. This piece of address was first noticed by Mr. White of Selborne. That excellent observer says, "White owls seem not (but in this I am not positive) to hoot at all; all that clamorous hooting appears to me to come from the wood kinds. The white owl does indeed snore and hiss in a tremendous manner, and these menaces will answer the intention of intimidating; for I have known a whole village up in arms on such an occasion, imagining the churchyard to be full of goblins and spectres. White owls also often scream horribly as they fly along; from this screaming probably arose the common people's imaginary species of *screech owl*, which they superstitiously think attends the windows of dying persons." On this authority it has been stated in all subsequent accounts that this owl does not hoot; but Sir William Jardine, in a note to his edition of White's book, asserts that the white owl *does* hoot; that he has shot several of them in the very fact, and that at night, when not alarmed, hooting is their general cry.

White owls become exceedingly tame when taken young; but they will not bear confinement if they have attained their full growth in a state of freedom: it is also difficult to support them in a state of confinement on account of their continual demand for fresh mice; whereas the young of the brown owl will eat indifferently everything that is brought to them; snails, rats, kittens, puppies, or any kind of carrion or offal.

Inoffensive to man as these birds usually are, it is by no means safe to meddle with their young, to which, in common with other owls, they manifest a strong degree of attachment. Instances are on record of their inflicting serious injuries even on persons whom they suspected of evil intentions against their young. For an illustration of this we may turn to the 'Gentleman's Magazine,' among the news of which, for 1765, we find the following:—"A carpenter passing through a field near Gloucester was attacked by an owl that had a nest of young ones in a tree near the path. The owl flew at his head, and the man striking at it with a tool which he had in his hand, missed his blow, upon which the owl repeated the attack, and, with her talons fastened on his face, tore out one of his eyes, and scratched him in the most shocking manner."

The same publication records an incident somewhat similar to this in 1769:—"A labouring man, returning from Stratford to Birmingham, picked up a young owl in the pathway, which the old one perceiving, immediately flew at the poor man, and struck him with such violence as to deprive him of the sight of one eye." After this, it behoves those who value their eyes to be exceedingly cautious in their dealings with young owls.

It is observed that in some years owls are much more abundant than in others. An intelligent correspondent of the 'Gentleman's Magazine' in 1792 remarks, that owls were so remarkably abundant in the years 1789 and 1790 as to occasion a scarcity of pigeons, few dove-cotes in the south of England escaping their ravages; and what was more singular, they hooted much during broad day. It is a pity the writer did not mention the species; it must, however, have been one of the migratory owls, which happened to arrive that year in greater numbers than usual. The fact of owls devouring pigeons has already been mentioned; and it seems in general that their range of food is less limited than is commonly supposed. The writer of the able article 'Ornithology,' in Brewster's 'Encyclopædia,' relates the following anecdote of an individual of the species we have now under consideration: "A gentleman who resides in Yorkshire, and who is very conversant in ornithology, having observed the scales of fishes in the nest of a pair of this species in the neighbourhood of a lake, was induced, one moonshiny night, to watch their motions, when he was agreeably surprised to see one of them plunge into the water and seize a perch, which it bore to its nest."

Frequenting, as owls do, retired and gloomy places, and seeming to give a preference to the vicinity of churches and cemeteries, from whence they send forth their doleful and lugubrious notes, "making night hideous," it is not very surprising that owls should be considered by the ignorant and superstitious as birds of ill omen, foreboding calamity or death to him who hears them. A person who hears, in the deep silence and stillness of the night, their notes brought to his ear from some distant solitude, will readily understand the strong effect which the sound with its association is calculated to produce upon weak imaginations, and will not wonder at the character which has in all ages been assigned to this well-disposed and useful bird. The superstition is by no means peculiar to any one time or country. The Romans viewed the bird and its note with equal detestation and dread, and it was deemed a woful event for a city if an owl happened to show there its broad honest face. According to Pliny, the capital of the world underwent a solemn lustration in consequence of an owl having happened to stray into the Capitol. Butler thus alludes to this circumstance:—

> "The Roman Senate, when within
> The city walls an owl was seen,
> Did cause their clergy with lustrations
> (Our synod calls humiliations)
> The round-faced prodigy t' avert
> From doing town and country hurt."

Alexander Ross,—the same worthy whom Butler has immortalized in the famous rhyme,—

> "There was an ancient sage philosopher
> Who had read Alexander Ross over—"

this person in one of his works collects from old authors a number of instances in which the owl had given historical presages of evil, and concludes the account with the following "modern instance:"—"About twenty years ago, I did observe that, in the house where I lodged, an owl groaning in the window presaged the death of two eminent persons who died shortly after." The truth is, that Alexander, or any one who might think it worth while, might collect a choice assortment of omens from birds drawn from the best old authors. On this subject Macaulay remarks:—"Suetonius, who took into his head to relate all the prodigies that preceded the deaths of his twelve Cæsars, never misses an opportunity so favourable of doing justice to the prophetical character of some one bird or other. It is surprising that Tacitus should have given in to the same folly." Every reader will recollect a multitude of allusions in prose and verse to the ominous character of this unfortunate bird. Brand informs us that it was formerly a rural custom to hunt owls and squirrels on Christmas Day. This information is given in a note to the following lines of an old Scottish Christmas carol, which he has reprinted at length:—

> "The wenches with their wassel-bowles
> About the streets are singing,
> The boyes are come to catch the owles,
> The wild mare in is bringing."

It would seem that in this country not only has the note of the owl been considered ominous of death and evil, but has also been deemed a prognostic of the weather. Willsford, in his 'Nature's Secrets,' says:—"Owls whooping after sunset, and in the night, foreshows a fair day to ensue; but if she names herself in French (*Huette*), expect then fickle and unconstant weather, but most usually rain."

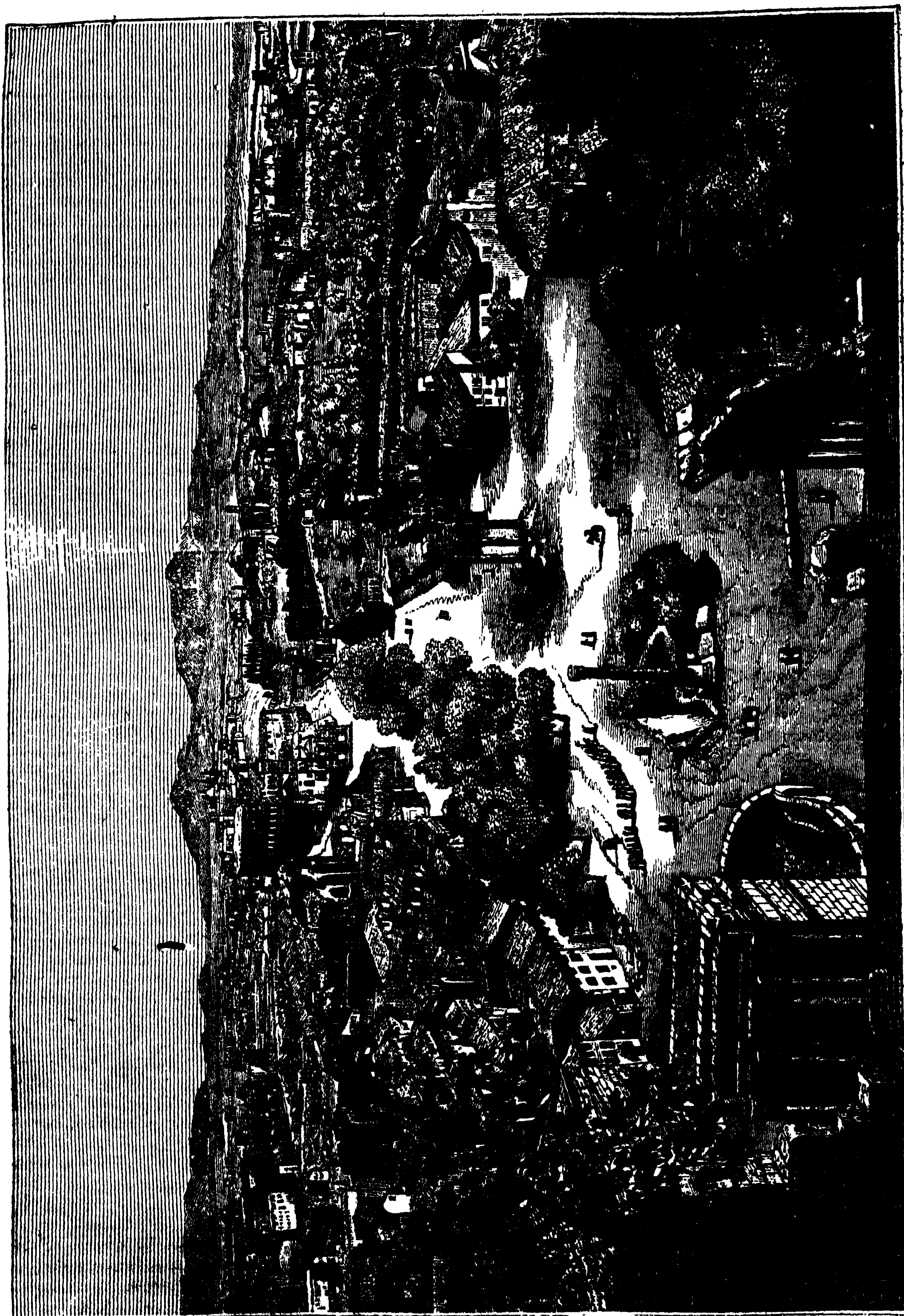
Among the ancients the Athenians alone seem to have been exempt from the popular prejudice against the owl: they regarded it with esteem and veneration as the favourite bird of Minerva, and a symbol of wisdom. Some writers say, beautifully if not truly, that the owl became the symbol of wisdom from its property of seeing in the dark. We are not aware that these poor birds have, in the present times, any other patrons than the Calmuc Tartars, who look upon it as a crime to kill one of them, from their being considered the harbingers of good or bad fortune, accordingly as they fly to the right or to the left.

Cormorants.—Mr. H. Debord, of North Blyth, some time ago brought two young cormorants from the Farn Islands, which he succeeded in domesticating. They soon learned to fish for themselves, and when satisfied would amuse themselves in quitting and retaking their prey. They sometimes remained for a whole day on board of those ships where they were kindly treated, and when they sailed, would accompany their friends to sea for a few miles. These birds were very familiar, but would not submit to be teased. When shot at, they always flew to the first person they saw, belonging to their owner's family, for protection. Mr. Debord painted their heads white, in order to distinguish them from the wild ones, with whom they frequently associated. Notwithstanding this precaution, they were successively shot by some idle persons, incapable of appreciating the value of so curious an experiment on this solitary species, which the ingenious Chinese have rendered so useful.—*Historical and Descriptive View of Northumberland.*

The Queen's Boots.—The small but ancient village of Ketton, in Rutlandshire, was the property of Richard de Humet as early as the reign of King Stephen, from whom it came by several hands to the Harringtons, and then to the Noels, being now the property of the heir of the Gainsborough estates. Its tenure is by knight's service; and it is a curious fact that the sheriffs of the county collect annually a rent of 2s. from the inhabitants, *pro ocreis reginæ*, which can be only translated, "for the queen's boots." This may, perhaps, have been sufficient in early times to have supplied the queen with boots for a year, though now it would scarcely furnish wax and ends, even if queens were to make their own boots, according to the fashion of the day.—*Beauties of England and Wales*, 1813.

Process for tempering Steel Instruments.—A correspondent (Mr. Cæsar Colclough, of Tintern Abbey) has given us the following account of a process by which steel may be tempered so as to retain its maximum of tenacity. This object, which will be of much importance to many of our readers, is attained without bringing the instrument subjected to the process into immediate contact with fire, air, or water. Our correspondent speaks with a particular reference to drills for piercing glass, gray cast-iron, porcelain, &c., probably on account of the greater importance of a well-tempered instrument in such employment; but it is evident that the process is equally applicable to every instrument in which a good temper is of particular importance, whether a tool or an instrument of common use, as a razor or a knife. The following is the process:—Prepare Park's fusible alloy by melting in an iron ladle, with a little resin, five parts of bismuth, three of lead, and two of tin. Make a tube of wrought iron, with a welded bottom and a well-fitted iron stopper: the pipe of a broken key will do very well for small articles; and for larger, an old gun-barrel, with the touch-hole and breech welded, will in most instances answer. Then fill this tube with the above alloy, and introduce therein the instrument to be tempered, and put in the stopper, which should be somewhat tapering, so as to enter the alloy and keep the instrument below the surface: of course the tube will be only so far filled with the alloy as to allow room for the dilatation of the metal without the displacement of the stopper. Then bring the whole to a bright red heat, and afterwards plunge it into cold water. Take out the stopper and reverse the tube in boiling water, when its contents will fall out and the operation is completed. If it be a drill which has been subjected to this process, it will cut glass, and preserve its sharpness during many repeated trials if kept moist with oil of turpentine.

THE ROMAN FORUM.



[The Forum, at Rome.]

This scene, though now so desolate and degraded, was once the great centre of all the business, power, and splendour of Rome. Here, as long as the Romans were a free people, all the affairs of the state were debated in a most public manner, and from the rostra, elevated in the midst of the square, and with their eyes fixed on the capitol, which immediately faced them, and which was suited to fill their minds with patriotism, whilst the Tarpeian rock reminded them of the fate reserved for treason or corruption,—the noblest of orators "wielded at will the fierce democracy," or filled the souls of gathered thousands with one object, one wish, one passion—the freedom and glory of the Roman race;—a freedom which would have been more enduring had the glory been less.

"Yes; in yon field below,
A thousand years of silenced factions sleep—
The Forum, where the immortal accents glow,
And still the eloquent air breathes, burns with Cicero!"

"The field of freedom, faction, fame, and blood:
Here a proud people's passions were exhaled,
From the first hour of empire in the bud,
To that when further worlds to conquer fail'd;
But long before had Freedom's face been veil'd,
And Anarchy assumed her attributes;
Till every lawless soldier who assail'd
Trod on the trembling senate's slavish mutes,
Or raised the venal voice of baser prostitutes*."

Here the orators of the people brought their accusations against public men, or pronounced the eulogies of such as had died for their country, and here also were exhibited the bleeding heads or lifeless bodies of traitors, or (as it but too often happened) of men unjustly deemed so by an overbearing faction.

The Forum was the court of justice, and in the homely days of the early Republic civil and criminal causes were tried and decided by simple laws, in the open air, or in very plain sheds built in this square. The humble schools for the republican children (for these old Romans had places of public instruction for even the poor people) stood round the Forum, and seem to have been intermixed with shops, shambles, stalls, lowly temples, and altars. It was as she used to cross the Forum, day by day, in her way to and from school, that the innocent young Virginia, a maiden of plebeian rank but extraordinary beauty, unhappily attracted the notice of the lustful and tyrannical Decemvir, Appius Claudius, who sat there on the tribunal, surrounded by lictors to administer the laws which he himself outraged. It was here, as she was on her way to school, that Appius had her seized. Livy says, "As Virginia came into the Forum, (for the schools of learning were held there in sheds,) a dependent and minister of the Decemvir's lust laid his hands on her, and affirming 'that she was a slave, and born of a woman who was his slave,' ordered her to follow him, threatening, in case of refusal, to drag her away by force."

This fearful tragedy, with a sort of dramatic unity, was ended where it began. When the honest centurion Virginius, informed of the disgrace hanging over the head of his daughter, quitted the army with which he was fighting for his country, and came to Rome, he appeared in the Forum to plead for his child; and when he and Icilius, a young man to whom Virginia was betrothed, had both pleaded in vain, it was here he slew her. According to Livy—

"Virginius, seeing no prospect of assistance from any quarter, said, 'Appius, I entreat you first to make allowance for a father's grief, if I have made use of too harsh expressions towards you; and next allow me here, in the presence of the maiden, to inquire of her nurse the truth of this affair; that if I have been falsely called her father, I may depart hence with the more resignation.' Permission being granted, he drew the maiden and her nurse aside to the sheds, near the temple of Cloacina, then called the new sheds, and there, snatching a knife from a butcher, plunged it into his daughter's breast, with these words: 'In this manner, my sweet child,—the only one in my power,—do I secure your liberty!' And then, looking back on Appius, "With this blood, Appius,' said he, 'I devote thee and thine head to perdition!'"

This fearful scene led to a general rising of the commons and people of Rome against the nobles. The tyrannical offices of the Decemvirs were abolished;—the power of the aristocracy, which had been great out of all proportion, was abridged, and a check put upon their cruelty, arrogance, and insolence. In vain did Caius Claudius, a most noble and virtuous Roman, and the uncle of Appius, appear in the Forum, dressed in deep mourning, and surrounded by his relatives and dependents, to supplicate that the Claudian family, which had rendered many services to the state, might not be degraded by chains and imprisonment, and to implore pardon or protection of every individual citizen he met with in behalf of his nephew. The fate of the criminal Appius was sealed by men of unbending minds, and, to escape a public execution, he put an end to his own life in prison. His example was followed by Spurius Oppius, the most unpopular of his colleagues, and the rest of the Decemvirs went into exile, leaving their estates to be confiscated. Marcus Claudius, the vile pander who had claimed the fair Roman as his slave, was condemned to die, but this sentence was mitigated, and he also went into a dishonoured, wretched exile at Tibur (now Tivoli). "And thus the shade of Virginia, whose cause was best supported after her death, having roamed through so many families in quest of vengeance, rested in peace, none of the guilty being left unpunished*."

We have alluded to these incidents as they throw some light on the plain, homely state of the Forum in the earlier ages of the Roman republic, when stately edifices and the pomps and beauties of architecture and sculpture were unknown. To narrate all the great events of which this spacious area was the scene would be in a manner to write the history of Rome. Virgil, in speaking of this site in the days of Evander, who is supposed to have flourished some centuries before Romulus, says that then the flocks of sheep used to wander and cows low on the Roman Forum. If this were the case, it could only have been in certain seasons, for placed low, between hills, it received the rain and other waters from the higher grounds and the ravines or gulleys that cut the hills, and must have been a complete swamp during a good part of the year. Indeed, as Sir William Gell shows in his recent learned and laborious work on the 'Topography of Rome and its Neighbourhood,' the spot which afterwards became the Forum, as well as all the low ground on the side of the Circus Maximus or Coliseum was a marsh in the time of Romulus, and these two marshes served as a military defence to the Palatine, on which single hill then stood the whole of the city. If these bogs added to the strength of infant Rome, they must also have made the place a very unhealthy residence. As the city expanded, and enclosed other hills, and more and more room was required, the Forum was artificially drained. Sir William Gell says,—"The Forum must always have remained a marsh had not a subterranean channel been constructed, which carried off the stagnant waters by the Cloaca Maxima to the Tyber†." These cloaca, or sewers, which were works of magnitude and utility, as may still be seen by the almost perfect remains of them, were built under the first Tarquinian king by a number of Etrurians whom he brought to Rome for the purpose. The increase of cleanliness and salubrity they gave rise to must have been prodigious, and they continued to be serviceable for many centuries. In the time of the kingdom and republic, regular officers were appointed to the charge of them; under the emperors, contractors engaged to keep them in order for a fixed annual sum. Of all the capital cities of Europe, though neither of them reached perfection in this essential, ancient Rome and modern London are probably those which have paid most attention to drainage, and made the costliest works for that most essential object.

The same king, who is commonly called Tarquinius Priscus, was the first to assign lots of ground for building to the Roman people round the Forum, where sheds, lowly porticos, and shops were soon erected.

* Childe Harold, canto iv.

* Livy, book iii.

† Topography, vol. ii., p. 202.

This was about five centuries and a half before Christ. As the conquests of the Romans extended and the population of the city increased, the Forum became more and more thronged under the Republic; but 100 or more years after Tarquinius (when the tragedy of Virginia took place) the square was still in a very primitive condition, as we have shown; and the Forum does not appear to have gained much more a century after the latter event, or about 360 years before the Christian era, when a lake or chasm called Lacus Curtius suddenly opened in the midst of it, and would not close again (so goes the legend) until the most precious object the city contained was thrown into it to pacify the angry gods. The story of the gallant, self-devoted Roman knight,—the young and beautiful Marcus Curtius,—who, after casting his eyes to the temples of the gods within view of the Forum, and to the sacred walls of the Capitol, galloped his horse into the chasm and perished there for his country's good, was too marvellous even for the large faith of old Livy,—and yet it conveys so noble an example of patriotism that we are sorry we cannot believe it. Perhaps, however, it was an embellished and poetized relation of some real event, in which the heroism or disinterestedness of a Roman knight conferred a great and lasting benefit on his countrymen. An earthquake, or a tremendous rush of water may have made a rent that would require an immense outlay to fill it up, and this outlay may have been made, to his own ruin, by one noble citizen. Or if we suppose that some such calamity had in part thrown open and in part blocked up the Cloaca Maxima, which runs under the middle of the Forum, and that Curtius had it repaired at his own expense, although, to be able to do so, he was obliged to sacrifice even his horse, his best armour and gorgeous accoutrements, and utterly ruin his fortunes, and perhaps die while superintending the work, the narrative becomes less grandiose and romantic, but still conveys a glorious deed, while it gains infinitely on the side of credibility, as few people now-a-days will lend any belief to the responses of augurs and soothsayers, or to any part of the story as literally told by the old Roman chroniclers. In this natural way, even the labours of Hercules and the exploits of Theseus may be traced down to some real and natural deeds, which, as they had greatly benefited mankind, were in the first instance magnified by gratitude in oral tradition, then made supernatural by priests, and finally etherealized by annalists and poets.

During the Republic, in the absence of those vast and splendid theatres and amphitheatres where the emperors afterwards amused that people whom they enslaved, the players and gladiators exhibited in the Forum. In the later years of the Commonwealth a great number of temples, military columns, and rostra dotted the space; but these, for the most part, gave way to more splendid edifices and objects which were erected during the empire, when the soul of liberty that had animated the place and the virtues which could cast a charm on lowly walls had for ever taken their departure. We do not eulogize the factious spirit, the love of war and conquest, which were the immediate causes of their ruin, but we need scarcely remind any of our readers that the old Roman republicans had many private and public virtues,—that they were sober, honest, chaste and hospitable,—and that they loved their country with an unbounded passion. All these disappeared under an execrable despotism; and the Romans experienced, what all nations will feel, that in forging chains for others they make rivets for their own necks,—that those who enslave to-day are on the road to be enslaved to-morrow,—that the spoils of unjust aggression, and the gains wrung from a vanquished but once free people, are like clothes stolen from the back of a man that has died of the plague, which carry a curse and death to the fool who puts them on. The wooden sheds where Virginia repaired to school, and where her father seized the butcher's knife, were succeeded by marble porticoes and colonnades; and it is even said that, by night, the Forum was illuminated all round with lamps. On one occasion, Julius Cæsar nearly covered it all over with tents or awnings, for the purpose of commodiously celebrating certain games; and Octavia, the sister of the Emperor Augustus, furnished it with an immense quantity of velaria, or canvass awnings, to shade the portions of it where causes were tried. In the immediate neighbourhood of the Forum—on the Palatine Hill, which stands at one end of it—Augustus himself built a library, wherein he placed a large collection of law-books, as well as the works of all the famous Roman authors. Pliny gives an almost incredible notion of the number of statues and busts of gods, heroes, and emperors, which a few years later were arranged in the midst or around the Forum *Romanum*. Here the adjective sounds like an absurdity or a reproach.

It was at this period, when the Romans had no deliberative voice, and not, as Mr. Eustace incorrectly says, "when the Roman people assembled to exercise their sovereign power, and to decide the fate of heroes, kings, and nations," that the Forum offered one of the richest artificial exhibitions that eye could behold. It terminated in triumphal arches; and here the eye rested on the glorious terraces of the Capitol,—there on the Imperial Palace, stoas, and temples on the Palatine Mount. It was no longer the centre of liberty and political affairs, but it was still the centre of justice (if we can apply that holy name) to an immense empire: and it was the great market-place, and a centre of general trade besides. As the value of houses and small pieces of land increased in the vicinity of our Cheapside, St. James's, and Regent Street, so, and from the same causes of central and relative situation, did the prices rise in and near the Forum. A warehouse, a shop there, was worth more than one in any other part of Rome. There is an illustrative and amusing passage in one of Juvenal's satires, where he speaks of the value of ground near the Forum, and of houses built on it; and in another satire, by the same Roman poet, who was contemporary with what he describes, he says that "quinque tabernæ" (five shops or warehouses) on the Forum were equal to a noble's estate.

The list of all the edifices in the Forum would be tedious, nor could even learned antiquaries now make it correct; but among them we may mention the Temple of the Penates, or Household Gods, the Temple of Concord, the Temple of Jupiter Stator, the Temple of Castor and Pollux, the Temple of Vesta, the Temple of Victory, the Temple of Julius Cæsar, and the Arches of Fabian, Tiberius, and Severus. All these, however, and in most cases even the traces of them, have disappeared, the few objects remaining being a puzzle to such persons as take an interest in them, and examine the matters on the spot. For example, the three magnificent columns represented in our engraving have been differently assigned to the Temple of Jupiter Stator*, to a senate-house, to a portico, to a comitium or public hall, and to a bridge. If we could hazard ourselves on a field where more learned men have met, and almost fought on the subject, we should be inclined to say that the columns are the remains of the Jupiter Stator, the Temple of the unreceding and immovable Roman Jove!

* *Stator*, one who stands firm: from the verb *stare*, to stand still, not to move back or flinch. The Romans gave this surname to Jupiter, because he stopped their flight in a battle against the Sabines.

A few sad words will describe the present state of the Roman Forum.

It is reduced, not indeed to the pasture-ground for cattle which Virgil described, but to the market-place for pigs, sheep, and oxen, being now the Smithfield of Rome. The hills, the river, the roads and bridges, in this mother of cities, mostly go by their ancient Latin names, slightly altered in Italian, but the Forum has not even retained its name: it is now called the Campo Vaccino, or the Field of Cows!

Close by the stately ancient columns is a solitary Christian church, called Santa Maria Liberatrice, and at a few yards' distance, in the middle of the Forum, there is an old Roman fountain, with a large granite basin, dingy from time and dirt. A few fragments of columns, capitals, and architraves lie scattered about, and here and there low jagged lines of old Roman walls show themselves above the rough surface of the Forum. If, however, you cross the "field of freedom, faction, fame, and blood," you presently reach ground that is almost covered with stupendous ruins, such as the Palace of the Cæsars, the Coliseum, and the arch of Titus on the Via Sacra.

There were several other Fora in Rome, besides the Romanum. Julius Cæsar made one, Augustus another, and Trajan added a third. We may pass these by; but there is another Forum in the neighbourhood of Rome, the Forum Populi, which is frequently mentioned in the history of the Republic, and which interests us as being the popular and commercial resort of a free people. At stated periods the Romans and their friends or allies used to meet at that spot, and celebrate the Latinæ Feriæ, on which merry holidays religious ceremonies were accompanied by renewals of treaties of amity, by the interchange of commodities, and by manly sports and pastimes. While the Roman citizens came from the Tyber, the free confederates descended from their mountains, or wended their way from the fertile plains beyond the river Liris. Sir William Gell thinks he can fix this interesting spot.

"The habitations round the Temple of Jupiter Latialis, on the summit of Mont Albano, are supposed to have constituted the village called Forum Populi. It is probable that the meeting of the Latin confederates upon the mountain, and the fair held there, led to its erection. Here the Consuls had a house, where they sometimes lodged, which Dio Cassius (lib. liii.) says was struck by lightning*."

Generally speaking, the market-place of every considerable town was called by the Romans the Forum.

* See the 'Topography of Rome and its Vicinity,' vol. i., p. 452.

MINERAL KINGDOM.—Section XLVI.

We have now described all the metals which are used in the arts in their pure or metallic state, viz., iron, copper, tin, lead, gold, silver, mercury, platina, rhodium, zinc, antimony, and bismuth: four others remain to be noticed, viz., manganese, cobalt, arsenic, and chromium, which are also employed for different purposes of art, but only in combination with oxygen or other materials.

Manganese was discovered by the Swedish chemists Scheele and Gahn, in the year 1774, having been obtained by them from a black mineral, which, till then, was imagined to be an ore of iron. The metal is never found in nature in a pure state, probably on account of the great avidity with which it absorbs oxygen: when obtained artificially, it is found to be of a grey or whitish colour, like fresh-fractured iron, has a specific gravity of 8·00, and is quite brittle, being neither malleable nor ductile. It is very difficult of fusion, requiring a greater heat than iron does to melt it. There are different varieties of its ores, but they are all oxides, mixed with various proportions of iron, sulphur, carbonic acid, and earthy matter. The most common of these is the black oxide, which occurs sometimes crystallized, at other times, and more abundantly, in the form of a black powder or earth, in which state it is known in England by the name of *black wad*. It is found in most parts of the world, and, in minute quantities, is a very generally diffused substance in a great variety of rocks and other minerals. It is most abundant in the primary and more ancient of the secondary rocks. There is a manganese mine near Callington in Cornwall, and it is found in considerable quantity near Upton Pyne in Devonshire.

The great consumption of the black oxide of manganese is for the purpose of obtaining oxygen gas from it, for the manufacture of bleaching liquors and powders. For this purpose a mixture of common salt and black oxide of manganese is put into a proper vessel, sulphuric acid is poured upon it, and heat is applied. The sulphuric acid decomposes the common salt, setting muriatic acid free, which acts upon the manganese, and chlorine, or oxymuriatic-acid gas, as it used to be called, is produced, which is afterwards combined either with potash, or, what is more usual, with quick-lime in the dry state; and this last is the bleaching powder of Tennant, now universally consumed in bleaching establishments. The usual way in which chemists obtain oxygen gas is by heating the black oxide of manganese in an iron retort, and conveying the gas by a tube under the surface of water into jars. It is also extensively used in the manufacture of glass, in order to render it colourless, which is supposed to be effected by the manganese uniting with the iron almost always contained in the materials used for making glass, and which would impart a green tinge if not thus neutralized. Care must be taken, however, not to add too much manganese, for an excess of it would produce a purple glass. This application of manganese was known before the true nature of the substance used was ascertained; and, on account of its property of cleansing the glass from impurities, it is even now sometimes called "*glass soap*."

Cobalt was discovered by a German chemist of the name of Brandt, in the year 1733, and was so called (in German *Kobalt*, and sometimes *Kobold*) because the ore was found in mines where noxious vapours were prevalent, and which the miners ascribed to Kobold, the evil spirit of the mountains. It is never found pure. When obtained from the ore, it is of a reddish-grey colour, without much lustre, has a specific gravity of 7·83; is brittle at common temperatures, but, when red-hot, may be partially extended under the hammer. It is fusible only in a very strong heat, nearly as high as that required to melt cast-iron. It is attracted by the magnet, and is capable of being rendered permanently magnetic.

There are not many varieties of the ores of this metal: the most common are its combinations with arsenic, sulphur, and iron, the arsenic generally predominating over the other constituent parts: they occur in veins traversing the primary strata, and also in the rocks themselves. The chief supply of the metal is from Norway, Sweden, Bohemia, Silesia, and Saxony. Ores of cobalt are found in different parts of Cornwall, but not abundantly.

The sole use of this metal is in the state of an oxide, when it gives a blue colour to glass, porcelain, and other earthy mixtures. A very small quantity produces a great intensity of colour, one grain of the pure oxide giving a very full blue to 240 grains of glass; and therefore it is usually sold diluted, as it were, by a quantity of vitrifiable earth, such as flints, either simply mixed with the earth, when it forms a brown powder

called Zaffre, or already melted with the vitrifiable materials, and finely ground, when it is called *smalts*, *azure-blue*, and *powder-blue*. In the manufacture of smalts, the ore is roasted in a furnace of a particular construction, having a horizontal chimney, sometimes 600 feet long, chiefly composed of wood. The purpose of this very long chimney is to condense the vapours of the arsenic contained in the ore, and prevent their escape into the atmosphere. The ore, being well calcined, is ground to a fine powder, mixed with two parts of powdered flints or quartz and melted, and thus a blue glass is formed. This last, by repeated grindings and washings, is brought to the state of a very fine impalpable powder, and then it is fit for use. The principal manufactures of smalts are in Norway, and, in Saxony, at Schneeberg, a small town south of Leipzig, at the foot of the metalliferous mountains called the Erzebirge, or ore-mountains.

The great consumption of smalts is to give a slight blue tint to white linen and cotton fabrics after they have undergone the process of bleaching, and they are employed for the same purpose by washerwomen; and in the manufacture of paper, the blue shade is given by this material.

In the year 1832 the importations of smalts were,—

From Norway	309,579 lbs.
„ Germany	98,668
„ Holland	11,270
„ Spain	7049
	426,566 lbs.

There are manufactures of smalts in Holland, but the materials are brought from Germany.

Arsenic.—This substance was first made known as a peculiar metal by Brandt, in the year 1733, at the same time with cobalt, both occurring in the same ore. The origin of the name, which is Greek, will be found in the 'Penny Cyclopædia.' The pure metal is of a greyish white colour, with a bright metallic lustre, but it speedily tarnishes by exposure to the air, becoming black. It has a specific gravity of 5·88, and is exceedingly brittle. When combined with other metals, it is highly detrimental, rendering them brittle and immalleable. Its point of fusion has not been exactly ascertained, but it is of all the metals the most volatile, for, when exposed to a heat of 356 degrees, it is dissipated from the solid state into vapour. If the operation be carried on in a close vessel, the metal is sublimed without change; but, when exposed to the air, it combines with oxygen, and is converted into a white powder, which is an oxide, with slightly-acid properties, and is the common arsenic of commerce, so well known as a deadly poison. The vapour of metallic arsenic has a peculiar smell, resembling garlic.

Arsenic is a natural production of frequent occurrence, and presents itself, under a great variety of forms, in combination with other minerals. It is found in the pure or native state, but the most common ores are those in which it is combined with other metals, especially with cobalt, iron, and silver. United with one proportion of sulphur, it forms the brilliant red mineral called *realgar*; with another proportion, the bright golden yellow substance called *orpiment*, a name formed from the Latin words *auri pigmentum*, signifying pigment of gold, because it was used by the ancients as a paint. In combination with a larger proportion of oxygen than the white oxide has, this metal forms a peculiar acid, called the arsenic acid; it is of frequent occurrence in nature, combined with iron, lead, copper, earths, &c., forming beautiful minerals called arseniates. All the ores are confined to the older rocks, being usually met with in veins, along with other metallic ores, traversing those formations. They are found very commonly in such circumstances in Cornwall, and, indeed, in most countries of the world, but the chief supply is from those parts of Norway, Sweden, and Saxony, where cobalt-ores are smelted.

Uses.—What is commonly called arsenic, and which, as we have said, is not the pure metal, but the white oxide, is composed of about 75 per cent. of arsenic and 25 of oxygen. It is prepared by heating the ores in a strong cast-iron box, provided with a conical head of the same metal, into which the fumes of the metal rise, combining with the oxygen of the air, and are condensed; and this first product is purified by a second sublimation of the same sort. The chief consumption of it is in the manufacture of glass, where it acts partly as a flux for the other materials, but its agency in improving the quality of the glass is not well understood. Metallic arsenic has no deleterious effect upon the human body, it is the white oxide which acts so violently: but even that, when administered in very minute quantity, has been, of late years, found to be a valuable medicine in several forms of disease. Those who are curious to know in what maladies it has been used may consult the 'Penny Cyclopædia,' where they will also find a description of the most approved method of detecting this poison where its presence is suspected.

Chromium was discovered by the French chemist Vauquelin, in an ore of lead from Siberia, in the year 1797, and he gave it that name from a Greek word (*chroma*), signifying colour, on account of the remarkable vividness of colour which the metal, in different states, communicates to various substances with which it may be combined;—a single grain of some preparations giving a perceptible tint to three quarts of water. When obtained pure, it is a metal of a greyish white colour, having a specific gravity of about 5·00, being extremely brittle, and very difficult of fusion. When united with oxygen it forms a peculiar acid, and combinations of this acid with lead and iron are the only forms in which the metal is found. The chromate of lead comes from Siberia; the chromate of iron is met with in Siberia, the United States of North America, France, and the Shetland Islands.

The only use of this metal is as a colouring body. The beautiful paint called *chrome yellow* is a compound of chromic acid and oxide of lead; and another preparation with lead produces a powder of a beautiful red colour, which, as well as the yellow, is a durable paint, and a valuable material in dyeing and calico-printing. Oxide of chromium tinges glass of a beautiful emerald-green colour.

We have now described sixteen different metals, being all those which are employed in the arts: besides these, eleven others have been discovered; but, as they are as yet only objects of interest to the chemist and mineralogist, it does not fall within the scope of our present plan to notice them. But even these twenty-seven bodies do not constitute all the metals, for modern researches have proved that the fixed alkalies and the earths are oxides of peculiar metals, and thus the list extends to forty-two. But it belongs more to chemistry than to a description of the Mineral Kingdom to treat of the earths as compound bodies, and we shall therefore proceed, in our future Sections, to describe other mineral substances which are employed in the useful and ornamental arts.

⁎ The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

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ADELAIDE GALLERY.



[South American Indian Hut.]

We have been much gratified by a visit to a collection of curiosities which has been some years established in London at Adelaide Street, and which contains a great variety of interesting objects, though of a more heterogeneous description than are usually met with at such exhibitions: this is not said as a censure, but rather otherwise, as visitors at such places seek as well to be amused as instructed; and for those who have any particular object in view, there will be found quite enough to interest for the time usually devoted to a visit.

The lover of science, although he may not find anything to increase his store of knowledge, will surely see objects which he would find it difficult to meet with elsewhere, and may witness experiments in the large way, which he would scarcely be able to perform so satisfactorily on a smaller scale. Amongst other things, there are some very powerful electro-magnets, which show the Voltaic light with great intensity, and others which communicate such a rapid succession of electric shocks, that few persons can withstand them above a few seconds, although each separate shock is but slight. A bar of soft iron, weighing 84 lbs., becomes such a powerful magnet when in communication with a small galvanic battery, that it will support a weight of above 400 lbs. A very pretty illustration of the power of the dry galvanic pile is shown in a glass bell, where four little figures on horseback are constantly riding slowly round, forming a perpetual motion, at least as long as the galvanic action lasts, which may certainly be several years. The writer has seen a watch, constructed by Singer, set in motion by a powerful combination of a similar description, which was in motion at least sixteen years, and is so probably at this moment.

The great power of steam at a high pressure is shown in the steam-gun, which discharges a number of bullets (said to be seventy in four seconds) against an iron target placed at the end of the room. Of the actual power of this instrument we have no means of judging, nor of its manageability as an implement of war. A target is shown with several holes in it, said to have been pierced by bullets discharged from the gun, but it is difficult to estimate its power as a gun by its effect when so near. The noise of this instrument appears to be rather an objection to placing it in a room where there are so many objects requiring a quiet contemplation.

The middle of the Long Room, which contains th

chief part of the collection, is occupied by a canal or trough 70 feet in length, and containing 6000 gallons of water, for the exhibition of models of steam-boats, which traverse it by the help of clock-work. The boats are driven by paddles of different construction from those in use on our rivers, and are stated to be superior from not causing so great a disturbance in the water. We apprehend, however, that the comparison is hardly fair between little boats slowly revolving in a tub of still water, and a great vessel running at a rate of twelve miles an hour on a rapid river: to judge of the improvements both boats should be placed in the same circumstances.

Persons who are desirous of witnessing the processes of our great manufactures may see some of them exemplified on a small scale. The Jacquard loom, which effected such a change in the manufacture of figured silks, and the ribbon loom which enables the weaver to move twenty shuttles at once, are both at work in a room above the gallery. Working models of steam-engines are also shown, with some of their gradual improvements from the time of Newcomen, who first used a piston at the beginning of the last century, to the condensing and high-pressure engines of the present day.

The antiquarian will find models of some of the ancient edifices of Egypt, Greece, Italy, and Britain, and the naturalist a few specimens of fossils, minerals, birds, and insects: but our limits preclude a notice of one-twentieth part of the objects collected. A great many articles are novelties sent by the inventors for the sake of publicity, which will account for the mingling of patent anchors, chains, rudders, fids, and keels; cupping-glasses and stomach-pumps; locks, mangles, ploughs, clogs, filters, blowers, bread-cutters, &c. &c.

The engraving represents a South American hut, of which there is a model in the gallery. The model is 2 ft. 4 in. in length, and 1 ft. 4 in. broad: its height in the middle is 1 ft. 8 in. It is merely a roof of broad leaves, supported upon nine poles. The middle row is composed of long poles for the highest part of the roof, the outer ones are shorter. It is quite open to the air on all sides, though probably the mats which are hung up within may be occasionally used as a means of shelter from bad weather. Long hammocks of net-work, in which the inhabitants sleep, are suspended under the sloping roof, and the implements of their occupations are hung all round. Two long canoes are fastened under the roof, and six heavy paddles suspended between the upright poles. A large well-woven basket of rushes stands on four legs in the middle of the hut, intended probably to contain food and the utensils of their cookery. The scenery in the engraving is adapted from Prince Maximilian's 'Travels in the Brazils.'

It is not stated by what tribe of natives these huts are constructed; probably by some of the great Guarani family, spread over the South American continent from the Amazon to the Plata, and forming nearly the whole of the native population of the Brazils. They are described by travellers as living in a very pacific and simple manner; they reside in thick woods, and subsist chiefly on the produce of the chase. They believe in a good and evil spirit, and in a future state. If they act in this world as becomes good hunters and faithful friends, they hope to find in the next thick woods abounding in game, which will not require to be hunted more than enough for healthy exercise; but those who are deficient in those virtues will be condemned to perpetual starvation in a barren region without a tree.

These people rarely visit the large towns on the coast, but inhabit the interior, where they find the greatest abundance of the means of subsistence. They often build their huts in the neighbourhood of the whites, in remote villages, though they rarely intermarry with Europeans. Many of them became nominally Christians under the influence of the Jesuits; but very few traces of religion remained with them after the suppression of that order, unless we refer the simple belief noticed above to that source. Little regular labour can be had from them, though foreigners have found their aid very valuable in procuring specimens of natural history. All attempts to enslave them have failed. When reduced to a state of captivity, they have either pined away or waited with indomitable patience until they have found an opportunity of escaping to the woods. The manner in which the Pampa Indians, farther to the south, build their huts is described by Azara, and, with the exception of the material of which the roof is constructed, it would apply well to the hut the model of which we have described. "They drive into the ground," he says, "three stakes, as big as a man's wrist, about four feet distance from each other. The middle stake is about six feet high, the others are shorter, and each is terminated at the top by a fork; about twelve feet from these, three other stakes are driven of the same form and height. They then place horizontally on the forks three long sticks or reeds, on which they stretch the skins of horses. When the weather is cold they add also horses' skins to the sides."

On a future occasion we may probably notice some other objects of interest in this collection.

DEATHS OF EMINENT PERSONS OF MODERN TIMES.

It is the custom for a paper to be read at the *soirées* of the College of Physicians; and as the first meeting of every season is attended not only by the heads of the medical profession, but by the most distinguished luminaries of the church and the law, by statesmen and men of letters, it naturally follows that it is desirable that the opening paper should be capable of interesting the philosopher and the historian as well as the mere practitioner. Those only who have tried their hand at a composition of this kind can justly appreciate the difficulty of being popular without being trivial, and instructive without technicality.

On the last occasion of this kind (26th of January, 1835) Sir Henry Halford took for his subject the deaths of some eminent persons of modern times, beginning with Henry VIII. In giving an account of it we shall not trust our memory, but take advantage of the printed essay which has since appeared. Sir Henry observes that when this prince ascended the throne at the age of twenty, he is said to have been one of the handsomest men of his time,—an assertion which is confirmed by Holbein's pictures of him at Windsor, and a full-length portrait at Belvoir Castle. As life advanced he became unwieldy in size, of a gross habit, was covered with sores, and he died of a dropsy at the age of fifty-six. "Henry's state of health in the decline of his life made him a great dabbler in physic, and the king not only offered medical advice on all occasions which presented themselves, but made up the medicines himself, and administered them. We find in that curious magazine of materials for history—the British Museum—a volume containing a large collection of recipes for plaisters, spasmadraps (dipped plaisters), ointments, waters, lotions, and decoctions, devised and made by the king himself and his physicians, applicable, perhaps, amongst other diseases, to that which had been imported some twenty-five years before from Naples; and in Sir Henry Ellis's most interesting collection of original letters, we read one from Sir Bryan Tuke to Cardinal Wolsey, giving an account of an interview with the king,

in which his Majesty prescribed for Sir Bryan, and sent also some excellent instructions to Cardinal Wolsey how he might avoid the infection of the sweating sickness, and how he should treat the disease should it attack him."

It is far from improbable that the Cardinal himself studied medicine, not only because almost all the learning of the land was then confined to ecclesiastics, but because then, and long afterwards, practitioners of physic were licensed by the bishops. His dying speech indeed would seem to show something of the kind. "Nay, in good sooth, Master Kingston, my disease is such that I cannot live; for I have had some experience in physic. Thus it is; I have a flux with a continued fever, the nature whereof is, that if there be no alteration of the same within eight days, either must ensue excoriation of the entrails, or delirium, or else present death. And; as I suppose, this is the eighth day, and if ye see no alteration in me, there is no remedy. Death, which is the least of these three, must follow. Farewell! I can say no more, but wish, ere I die, all the king's affairs to have good success. My time draweth on fast; I may not tarry with you. But forget not what I have said and charged you withal: for when I am dead ye shall, peradventure, remember my words better." The disease of which he died was dysentery.

Edward VI. died of inflammation of the lungs after measles.

Queen Mary was always of weak and unpromising health, for which frequent bleedings and exercise on horseback were prescribed. Aloes and chalybeates would probably have been preferable. She died of dropsy, a disease easily brought on in sickly constitutions by repeated venesection.

Dr. Bate, one of the physicians of Oliver Cromwell, has given an account of his last sickness in the work entitled 'Elenchus Motuum Nuperorum in Angliâ.' The Protector, encouraged by the assurances of his chaplains, imagined to the last that he should recover, and, with this expectation, consented to be removed from Hampton Court to London. On examination, there was increased vascularity of the brain and slight inflammation of the lungs, but the spleen was a mass of disease, and filled with matter like the lees of oil.

There is a report of the last illness of Charles II., drawn up by his first physician, Sir Charles Scarborough, deposited in the library of the Antiquarian Society. The fatal disease was a fit of apoplexy, under which he lingered for four days with the insensibility which forms a part of the malady. This will account for his making no answer to the religious exhortations addressed to him; a fact which seems to have surprised Bishop Burnet, who attributes it to anything but the plain obvious reason, the stupefaction of apoplexy.

The immediate cause of the death of William III. was a fall from his horse in Hampton Court Park, by which he not only broke his collar-bone, but detached an old adhesion of the lungs to the pleurà. This occasioned inflammation and suppuration, which terminated fatally.

Queen Mary, his consort, died of the small-pox. Bishop Burnet attributes the fatal termination of the case to the negligence or unskilfulness of Dr. Radcliffe, but, in Sir Henry Halford's opinion, without any reason.

Dryden appears to have died of senile gangrene,—a mortification occurring in the extremities of aged persons from ossification of the arteries. His body lay in state at the College of Physicians for ten days.

Sir Henry thinks that Swift's irritability was of that peculiar nature which accompanies palsy. In his youth he suffered from head-ache, dizziness, and deafness; afterwards from a plethoric state of the cerebral vessels; and he finally died of effusion of water into the ventricles of the brain, or serous apoplexy.

George I. and II. both died suddenly; the former of apoplexy, in his carriage, the latter of a rupture of the right ventricle of the heart. The disease which terminated the life of the Duke of Gloucester was seated in the liver, and produced such extreme irritability of the stomach as to incapacitate it from receiving the smallest nourishment. Sir Henry Halford concludes by requesting his auditors to read history, "not with that total disbelief of it which Sir Robert Walpole is said to have expressed when a volume of history was offered him for his amusement, after his retirement from public life, but with some mistrust and reserve, recollecting how difficult it is to develop the motives of human conduct;—how easily the spirit of party insinuates itself into the historian's mind and colours his narrative;—and how almost impossible it is for an unprofessional writer to appreciate fully the effect of diseases of the body upon the minds and actions of men."

Fertilization of Lava.—This phenomenon has been thus explained by Sir William Gell, in his 'Topography of Rome and its Vicinity:'—"It has been proved that volcanio lapilli and volcanic productions in general possess in an eminent degree the power of retaining moisture (imbibing with ease seven-eighths of water), and that their humidity is a principal cause of their fertility. Mixed with the soil, and impregnated with a store of moisture acquired during the winter months, they occasion in the ensuing summer the fertility so remarkable in the vicinity of Naples."—vol. i., p. 250.

INTERIOR VIEW IN THE GRAND MOSQUE OF SULTAN ACHMET, AT CONSTANTINOPLE.

In an early Number of our Magazine (No. 25) we gave a bird's-eye view and a brief external description of this magnificent Mohammedan temple, which stands on one side of the ancient square of the Hippodrome. It was built by the victorious Sultan Achmet I., by whose name it generally goes;—but it is also called Alti-Minarély, or the Mosque of Six Minarets, being the only one in the Turkish capital that has so many of those light and lofty towers. Until of late years, it was difficult for a Christian to obtain admission within these temples at Constantinople, and to that effect it was necessary to get a special firman from the Porte, which document did not always save those who used it from being insulted or assaulted by a fanatic mob. Now, however, Sultan Mahmoud's reforms, and defeat, and humiliation, have disarmed the people of their animosity and fierceness, and Christian travellers go in and come out of their mosques with little or no difficulty. The interior of most of these sacred edifices is now almost as well known as their exterior. In all the imperial mosques, which, including Santa Sofia, are fourteen in number, the expanse and elevation are grand and imposing, but nothing can well surpass the extreme simplicity of their interior features and details. In some of them, as Santa Sofia and the Alti-Minarély, the columns are carved, and the arches, cupolas, and walls ornamented with low reliefs or mosaic-work; but these, with some scrolls and fretted work round the numerous windows, constitute nearly all the inner decorations, and there are scarcely any accessories or furniture, or articles of any kind, to break the great void, or injure the simplicity of the plan. The religion of Mahomet, like that of Moses, prohibits the representation, in sculpture or in painting, of any living thing*,

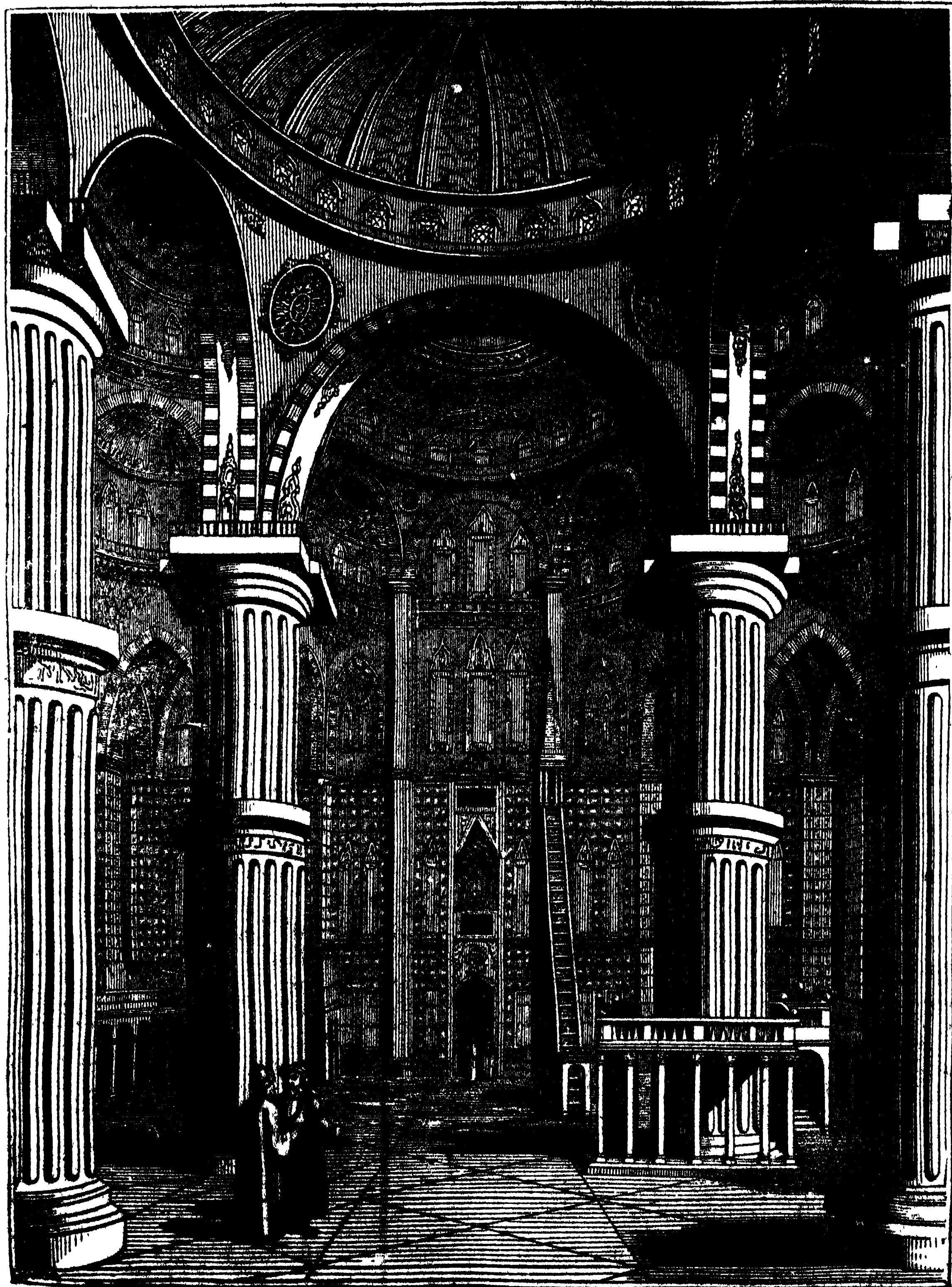
* The Persians do not adhere to this law, and the Turks are departing from it. More than three years ago, the Sultan gave his own portrait, set in diamonds, to the British Ambassador.

there are therefore no statues and no pictures. The organ, which swells so solemnly through Christian cathedrals to the delight of the ear, though its huge form is sometimes so placed as to cut up the interior view to the annoyance of the eye, is unknown to the Turks, who only make a religious use of music in the halls of their dancing dervishes. They have no stalls, no large canopied pulpits, galleries, pews, benches, chairs, or stools. The three principal objects in all Turkish mosques are the following, and they are small in dimensions, and by no means made prominent:—

1. The mihrab, improperly called by travellers "the altar," for it is nothing but a hollow place or niche, from six to eight feet high, made in the wall at the end of the mosque to point out the direction of the holy city of Mecca, to which the faithful must turn when they pray.

2. The mahfil-muezzin, a small, slightly elevated platform, to the left of the mihrab, where the muezzins are stationed during divine service.

3. The kursy, a kind of open pulpit to the right of the mihrab, only raised six or eight feet from the floor, in which the sheik preacher (who very seldom preaches) takes his stand.



[Interior of the Grand Mosque of Sultan Achmet, Constantinople.]

In addition to these, the imperial mosques, like that of Sultan Achmet, have a minber, and a mahfil-padishahy. The first is a kind of miniature pavilion, which, in some of the larger mosques, looks like a pigeon-house: it is always at some distance to the left of the mihrab, and is elevated on a steep and narrow flight of steps. According to the letter of the book of law, there ought never to be more than twenty-three steps to this flight. The minber is reserved for the khatib, or chief of the mosque, who on certain days recites from it at full length a profession of faith, and a denunciation of all religions save that of Mahomet. When the Turks were a conquering people, and converted the churches they took from the Christians into mosques, on the day they were opened, and when the sounds of "Allah il Allah!" were heard for the first time from the church-tower, the khatib ascended the steps leaning on a sword;—he held the sabre, as the instrument of victory and conversion, while he recited his profession, then waved it in the air, and then descended leaning upon it, as he had done on ascending the steps.

The mahfil padishahy* is a chamber or recess, closed in front with gilded lattice-work, in which the sultan and his courtiers sit concealed during the time of prayers. This recess, which does not in any way project from the walls of the mosque, is at a considerable elevation, and generally on the side of the temple opposite to the khatib's chair. It is more like the grated galleries in the Catholic churches, to which nunneries are attached, than to anything else, but is smaller than they generally are.

Inscriptions in large Arabic characters, and tablets bearing the names of Allah, Mahomet, the four first caliphs, and Hassan and Hussein, the children of Aly, occur here and there on the walls of the mosque, but are too plain and mean to be counted as decorations. At a distance the inscriptions look like mere scrawls done in black paint, and the tablets, which are surrounded by plain black wooden frames, are seldom more than two or three feet square. Some of the tablets are done in blue and gold letters, and contain short passages from the Koran. Lamps, which are sometimes of silver, (and in Achmet's Mosque they are, or *were*, of gold, and set with precious stones,) are suspended in different parts of the interior, but these are few and far between, and much too small to produce any effect in those vast spaces. The Turks also hang up in their mosques, and grand tombs or mausoleums, a number of large ostrich-eggs,—a curious custom which we have never seen explained. In some instances we have seen a few small coloured glass lamps, like those used in our illuminations or at Vauxhall, hung up in these temples.

The great floor of the mosque is generally covered with Egyptian matting of an excellent quality, being even, firm, and compact, and altogether different from our straw-mats. Until lately, the Turks wore soft morocco boots without any sole, and over these strong papoushes, or soled slippers, which alone received the dirt of the streets, and which they took off not only at the entrance of the mosque, but at the threshold of every private apartment they entered. The matting was thus not liable to be dirtied, and though some of the minor ones were neglected, particularly in the provinces, the chief mosques of Constantinople were kept most scrupulously clean and neat in every part. The interiors of the mosques of Sultan Achmet, the Suleymanieh, the Validé-Sultana, and the Eyoub, used to be remarkable for their almost spotless purity. Now that Sultan Mahmoud has put a large portion of his subjects into shoes and boots like our own, which are not so easy to take off as the Turkish papoushes, it will be rather more difficult to preserve the matting, on which they all kneel or prostrate themselves in their worship, free from mud and dust. But a more serious mischief is likely to arise to the mosques from the sultan's often-threatened seizure of the property attached to them, and which is in many cases very considerable. Santa Sofia is always considered as the chief temple, but it is to the mosque of Sultan Achmet that the Grand Seignor repairs in state at the Bairam, the Courban-Bairam, and the Mevloud*, the only three great festivals acknowledged in the religious code of the Turks.

On those days the vast space, of which only a section is represented in our engraving, was filled and crowded by the sultan's numerous court, by muftis, oulemas, pashas, beys, and other dignitaries of the empire, all followed by their grown-up sons, and a host of splendidly-attired domestics or dependants. The flowing and richly-coloured robes, the bright turbans and haughty caouks, the majestic beards, the daggers glittering with diamonds, the aspiring plumes of feathers with aigrettes of brilliants, and other gorgeous articles of costume and appointment, being condensed and enclosed as in a frame-work, within those plain but majestic walls, used to produce a picture that we have heard described as truly wonderful; and when that splendid mass, in the performance of their religious ceremonies, knelt, or threw themselves prostrate, or raised themselves and clasped their hands on their bosoms, as though the bodies of thousands had been moved by one will—one soul, the effect must have been electrifying.

We have used the past tense; for the splendour of these celebrations, and of everything connected with the Turkish empire, has been passing rapidly away; and the almost total change of costume which Mahmoud has obliged his subjects to adopt must deprive the scene of its most striking and picturesque features.

Seven years ago, though not allowed to enter the temple, we saw the sultan's procession on the Courban-Bairam go from the Seraglio gate to the Hippodrome, and the mosque of Achmet; and though we are not very fond of shows and spectacles, and the exhibition was even then far inferior to what it had been in former years, we could not help being forcibly struck by it. On a fine clear summer-morning, shortly after sunrise, the sultan, with an almost countless retinue, all dressed in their most splendid oriental costumes, and mounted on beautiful horses, richly caparisoned, issued from the Seraglio gate, in a waving, chequered, brightly-coloured line, that looked like some capricious rainbow. Each personage in the procession had several servants in rich dresses walking by the head or on the flanks of his horse, and the officers and attendants of the palace divided into many classes or troops, each of which was distinguished by a peculiar uniform, were distributed along the line. One part of the *cortége* consisted of a number of Arabian steeds—the finest horses of the sultan's stud, which were led in hand, and carried burnished shields and other pieces of ancient or eastern armour tastefully arranged on their backs and shoulders. A good part of this armour is said to have been taken in war by the Turks from the Greek emperors. The procession marched slowly through the streets, where all was dead silence on the

* Padishah is one of the titles of the Sultan.

* The Bairam, which is also called *Id-fitr*, or "the breaking of fast," follows the long Lent of the Ramadan, and may be compared to the Catholic Easter. This holiday lasts three days. The Courban-Bairam, or "the Feast of Sacrifices," falls seventy days after the first, and lasts four days. The Mevloud is a festival instituted by Mourad III., in 1588, in honour of the nativity of the prophet, but it is only a festival for the sultan and his court, and not for the people. It only lasts a day, and seems to consist almost entirely in a visit to the interior of the mosque of Sultan Achmet.

part of the thousands of human beings assembled there, and not a voice or whisper was heard until the sultan rode into the great square of the Hippodrome, when the Muezzins from the lofty minarets of the mosque sent forth their shrill but melodious cry—"Allah, il Allah! There is no god but God, and Mahomet is his prophet!" When they came in front of the temple, the Grand Seignor, his ministers, sword-bearer, courtiers, pashas, and the rest, all dismounted, and while some of the attendants remained outside in charge of the horses, others in their proper places joined the brilliant array that gradually disappeared under the arched gateways and in the interior of the mosque of Sultan Achmet.

ENGLAND, AS DESCRIBED BY AN EASTERN TRAVELLER SEVENTY YEARS AGO, (*concluded*).

In again bringing before our readers our Indian friend, Mirza Itesa Modeen, whom we lately introduced to them, we regret to be obliged to pass over two curious chapters in which he gives an account of Scotland and the Highlands, whither he was taken by his protector Captain S. soon after their return to London from Oxford.

His estimate of the character of the English is upon the whole highly favourable. He dwells particularly on those points in which their conduct or character contrasts advantageously with that of his own countrymen, to whom he thus makes an opportunity of administering either reproof or instruction. It is indeed not at all clear that his favourable report of ourselves does not partly arise from the desire to point his instruction or ridicule with more effect against his own people. Of our modesty he has the highest opinion. He says—

"The caste of English avoid self-praise, and talking of their own exploits they consider disgraceful. If an officer who has greatly distinguished himself by enterprize and courage in any victory be asked the particulars of the engagement, he simply states the facts as they occurred. If another person greatly extols the conduct and valour of that officer (before him), he immediately casts his eyes on the soles of his feet and remains silent, and from extreme bashfulness the perspiration distils from his face. The English in general, then, do not at all relish to be praised before their face;—they are rather annoyed at it, and dislike it. They consider an egotist a coward, and sycophants and flatterers liars. Under these circumstances, in their assemblies flattery is unusual. * * * Flattery is certainly a very foolish practice: however, the sepoys and officers of Hindoostan, and particularly of the city of Delhi, think that flattery and egotism add to their consequence; as, for instance, if a person, by a thousand labours happen to kill a fox, he then goes about everywhere and proclaims with a loud voice that he has slaughtered a tiger, and in a most valiant manner twists his moustaches, and swelling with pride, his vesture does not suffice."

This is perhaps exaggeration; but the general truth of his remarks is established by the fact that he was surprised to find a people who did not like to be praised to their face, which he would not have been if the practice had not been very different in his own country. It escaped his notice, however, that a person's being abashed on such occasions is no proof of real modesty. One who loves praise well, may be confused at being an object of praise in company, if only because he is not at liberty to exhibit the satisfaction he really feels. However, those who know how freely and easily praise is assumed in the East, and how exceedingly coarsely flattery is administered, will scarcely think that the Mirza has stated his case too broadly.

The following is perfectly true, although it acquaints us with a class of criminals happily not now known in the country:—

"There are mounted robbers in England who commit their depredations on the highway. Some of these men are the sons of wealthy parents; but having squandered away their patrimony at the gaming-table and in debauched living, poverty overtakes them, and then, being unable to turn their hands to a useful employment, they subsist by robbing. They lie in wait in the open commons, in forests, and in places removed from the habitations of men. When they observe a carriage approaching, they quickly gallop up with a pistol in their hand, which they present at the head of whoever is riding in the vehicle, and order him to surrender whatever he has got about him, if he wishes to escape with his life: he then delivers to the robber whatever property he may have."

The career of these worthies often exhibited many of the qualities which men are accustomed to admire, and which, in a duly balanced course of life, are really entitled to admiration. The very antagonism of qualities which their character exhibited interested the populace greatly about them. That they were bold and hardy was beyond dispute; but then in the midst of their ferocious course they were often polite—for they used, on occasion, the outward forms of courtesy and respect towards those who were terrified by their presence and impoverished by their exactions; and in the midst of their selfish and heartless spoliations, they were also generous—for they sometimes abstained from some article of the property which was particularly dear to the owner, and they sometimes threw back some small fraction of their spoil to supply the immediate wants of the plundered. They were generous like the Arab, who, after having plundered you of all your property, even to the clothes on your person, turns in all kindness towards you, and gives you, "in the name of God," a cloak from his own shoulders to cover your nakedness. The lives of the most distinguished of these personages were printed in a low-priced, if not cheap, form, and until within these few years formed a favourite article in the literature of the lower classes. It is one of the good services which the cheap publications of our own time have rendered to the public, that they have in a great degree superseded this commodity in the market; for it cannot be doubted that the interest which these books created in the career of criminals, and the admiration which was felt for some points in their character, had a serious effect in impairing or confusing that intuitive perception of the distinction between right and wrong which it is the interest of society to maintain and strengthen.

Our Mirza's view of the manner of conducting education in this country is interesting, although it has some unpleasant points as compared with the system which now prevails. It was nevertheless such as called forth his warmest approbation when he compared it with the educational practices of his own country.

"The higher classes of society in England educate their children in a totally different manner from that of the people of Hindoostan (of the same rank), where the teacher is retained as a servant in the house, in order that there may be no chance of the influence of the evil eye falling on the child. In England it is usual for people of rank to send their sons and daughters to a distant place for education.

"First of all they are taught the letters of the alphabet, which are written on a board; then an easy lesson is given them; after this they are taught to read pleasant tales, fitted to amuse children. The school-books have been rendered so easy, that the learner has no difficulty in acquiring knowledge. From the invention of printing, books have so increased, that if a person wishes for a hundred copies of a work, he will be able

to purchase that number in a single shop. Books in this country (Bengal), that cost one hundred and fifty rupees, are procured in Europe for the sum of ten or twelve.

"The people of wealth in England, commencing at the age of four years, keep their sons and daughters constantly employed in writing, reading, and acquiring knowledge: they never permit them to be idle. If a man or woman be unacquainted with the musical art, be unable to ride or dance, he or she is accounted by people of substance as descended from a mean parentage, and taunts and reproaches are not spared. They then say, 'Such a one's parents have been poor, and being unable to pay the cost of education, their children are therefore ignorant of everything.' Those ladies, in particular, who can neither dance nor sing, are considered in a very inferior light; they will never get well married. To be brief, the manner in which the English are educated and reared is totally different from that of India; for the sons of some of our great men and nobles are taught gratuitously. At school they acquire a thousand bad habits when they are supposed to be acquiring knowledge. However all that is disregarded by our men of rank, and gratuitous education is not accounted disgraceful. In England, however, money is expended in the acquirement of wisdom."

Here the Mirza, as might be expected from an Oriental, dwells more strongly on external than intellectual attainments, particularly in females; or it may be that, in the system of education prevalent at that time, more attention was given to the former than the latter. Things are improved now; but that this is not still the case in the education of females we will not undertake to say. This is a matter into which we cannot now enter. Let us see what our Indian traveller says about the education of the poor.

"The poor people of England," he says, "send their children to be taught in the town-schools, and pay at the rate of a rupee per week*. For the girls there are separate schools. I saw that the boys sat on a form in one line, and in this way studied their lessons. The teacher, with a leathern strap in his hand, heard the scholars repeat their tasks, commencing at one end and going down the whole line. When a boy committed a mistake in his reading, the teacher, without the least pity or remorse, struck him on the back with the strap to such a degree that he wounded the limbs of these silver forms and jessamine-legged youths. Although this appears to be cruelty, yet this saying is nevertheless true:—

'The tyranny of the teacher is better than the father's love.'

"The lower orders, particularly in Scotland, are all able to read and write, with the exception of those whose parents cannot afford to send them to school, or who are of weak intellect and unable to learn. After the children of the poor have acquired a sufficiency of learning, they are put to different trades; as one becomes a goldsmith, another an ironsmith, a third a shoemaker, and a fourth a tailor. Europeans can learn whatever trade they choose. * * * Now the Mussulmans of Hindoostan are ashamed to learn different trades. In England, if a man's father happen to have followed a mean employment, the son will not follow his father's steps, but says, 'I'll be a soldier.' The Hindoos act in a completely different manner; they all follow the same profession as their ancestors did."

This is interesting: but, notwithstanding the unqualified approbation of the Mirza, there are some unsatisfactory points in the picture he has drawn. We are particularly gratified to reflect on two changes which have since taken place: one is, that the unmitigated despotism of the old school system is giving place to a better, which considers that children have feelings and powers of reflection through which they may be managed more effectually, and with more comfort than by a gross appeal to their physical sensations. The reign of the cane, the birch, and the leathern strap is rapidly passing away, and we hope to outlive it altogether. The other matter of satisfaction is, that scarcely any children are now necessarily precluded from the benefits of instruction by the inability of their parents to pay for their education.

There are several passages that we had intended to introduce, but which our limits oblige us to omit. We feel constrained, however, to make room for the following extract, which forms part of a long comparison between the course of life pursued by the English on the one hand, and the Indians on the other. It will be seen that, as it regards the former, some of the statements rather describe what ought to have been than what was.

"The people of England, until the age of thirty, apply themselves to business. They travel and view the curiosities and wonders of the world, and after they have made some money, they then marry and remain at home, and ceasing to wander about, they live quietly with their wives. * * * After the English have made a sufficiency to maintain themselves comfortably, then during their whole life, even though it be extended to seventy or eighty years, they apply themselves night and day to add to their stock of knowledge, and never remain a minute idle. * * *

"The English are naturally good managers; they never throw away their money, and reckon it a very disgraceful thing to be in debt. The middle ranks of society place their money in the hands of a banker, and receive the interest of it monthly; the principal thereof remaining untouched. They are such a calculating race, that it often happens that a wealthy man has only one man-servant to attend upon him, who shaves and dresses him; besides the footman he has a female cook and a chamber-maid, and for the horses there is a single groom; the whole business of the house, then, is carried on by these servants. The master's time is occupied abroad, in making excursions and in hunting: his wife takes charge of all the accounts, superintends the household expenditure, and has the general management of everything.

"Many rich people who have families keep no carriage. People of rank, and even princes, do not think themselves at all lowered by walking the distance of a quarter or half a coss* in the streets and bazaar, either during the day or night: taking a stick in their hand, they go abroad in plain clothes. They do not resemble, in this respect, the rajahs and wealthy men of this country, who are attended by nukeebs, chobdars, esawuls†, foot and horse, rockets and standards, mahé muratib‡, and great pomp. Now the English consider the profusion, and the ceremony and state of the Indian retinues, as a most absurd and useless expenditure of money, and laugh at the people of this country for being such fools and blockheads. They say if any one (in England) were to appear with a pompous retinue, the boys of the city and bazaar would throw dirt upon his attendants, and would tauntingly clap their hands and throw stones."

It only remains to add, that after an absence of two years and nine months, Mirza Itesa Modeen returned to his own country, after having resisted all attempts to induce him to prolong his stay in England.

* Nearly equal to 2s. sterling. "In India," says the translator, "the children of the lower orders are educated at half a rupee per month."

* A coss is equal to 2000 English yards.

† Officers of parade.

‡ An honorary badge, being the figure of a fish.

CHINA.—No. VI.

Roads and Triumphal Arches.

The public roads of the Chinese, where difficulties like those we have mentioned in No. 226 do not exist, are described as admirable from their regularity, good repair, and comfort. The missionaries always picture them, after their descent from the bridges and craggy mountains to the campaign country, as being so pleasant and so nicely paved, that a traveller might fancy he was walking over the streets of a city. Wherever an irregularity of surface occurs, if an elevation, their industry has either levelled it or cut through it; and, if a hollow, they have filled it up. The roads are often paved with stones neatly laid in and fitted to each other; and, in regular succession, stone columns, not unlike our mile-stones, mark the distances. At each eighth of these pillars, which is computed a day's journey, there is an inn erected by government, and under the direction of the local magistrate, where every person travelling on the business of the state is entertained according to his rank. The common inns on the road are pretty numerous, but narrow and mean, and badly provided. In these imperial highways, as in their canals, the Chinese delight in straight lines; and, like the bridges, the roads are often ornamented with triumphal arches, and with temples and pagodas in which travellers may repose by day, but not stay all night, except indeed they be mandarins, when they may make very free with the houses of their gods, and with the idols themselves if they stand in their way.

In some provinces, the public roads are flanked by a row of trees on each side, when they look like a pleasant mall or promenade, or by walls, eight feet high, to prevent the passengers damaging the well-cultivated fields and gardens. At proper distances there are seats erected in a neat style for the repose of the weary traveller, which are well guarded both against the winter cold and the summer heat. There are also occasionally found along these roads men employed by rich and charitable individuals to distribute to the poor travellers tea, and, when the weather is severe, a sort of decoction of ginger, for which no return is required save that the wayfarers forget not the name of their benefactors.

According to law, there ought to be a tower with a certain number of soldiers for the security and police of the road at every half league, and each tower ought to be provided with flag-staffs*, to act as a sort of telegraph and make signals in case of alarm. It appears, however, that in many places the towers do not exist, while in many others they are described as being very mean and often unprovided with a guard, serving merely to mark the distances.

Their post-houses are regular and well provided, with a mandarin appointed to superintend each of them; but, unfortunately, all the post-horses are the property of the emperor, who does not permit any one to use them except his couriers, or the officers and persons despatched from court.

The government publishes an Itinerary, or book of roads, where all the roads are laid down, from the capital to the different extremities of the empire, and proper directions given to travellers. The missionaries, however, from whom this account of the roads is chiefly taken, complain of insupportable clouds of dust in summer, and of snow and inundations in winter; and Mr. Barrow is probably right when he limits the excellence of the roads to certain districts and provinces, though, when taking his account of inconveniences and horrors from a disappointed and irritated Dutch ambassador, we think he goes beyond the fact, and must believe in the concording testimony of many missionaries, who were not generally disposed to make light of the difficulties and dangers they had to encounter on their journeys, that there are many roads in the empire, besides those he mentions, that can "be ranked above a footpath."

Triumphal Arches.—These arches, mentioned as being so frequent on the bridges and roads, are also found in great abundance within the cities where the great streets intersect each other. The Chinese call them Pai Lou. Our name of triumphal arch does not exactly apply to them, as they are rather monuments erected to the memory of those who have deserved well of the community, or who, leading a life of virtue, have obtained an extraordinary longevity. Some of them are of stone, but they are more usually of wood, painted, varnished, and gilt in the most splendid manner. They are uniform, consisting invariably of a large central gateway, with a smaller one on each side, like the entrances to the Chinese palaces. The whole is covered by projecting, shelving roofs, richly carved, on the friezes under which there is an inscription, generally in letters of gold.

On the roads, as near the bridges of the canals and rivers, and within the towns, the traveller frequently meets with *taas*, or lofty pyramids, some of which are of great strength and antiquity. They are from seven to nine stories high, of a square form, without bells, but surmounted by a bronze urn. They are said to have been dedicated to Fo and the spirits, but no religious ceremonies are now performed in them. Antiquaries have endeavoured to identify them with the pyramids of Egypt (which they resemble in nothing save in decreasing, though in far different proportions, as they ascend), with the sacred obelisks of the Hindoos, with the upright stones of the Celts, the theocalis of the Americans, the obos of the Tartars, &c., and thus to attach them to a primitive and universal worship that has disappeared from the face of the earth. Without admitting this identity of faith, we may observe that the glorious heavens spread above our heads have universally been considered the abode of superior and immortal essences, and that the pyramidal form, going off in an evanescent point,—vanishing as it were in those ethereal regions,—would naturally strike the imaginations of men in different climates and under different religious institutions.

* In some provinces these towers are also furnished with bells of cast-iron. Many of the towers have been allowed to fall to a ruin. "A watch-tower in ruins gave us an opportunity to examine its structure: the brick-work was about four feet in thickness, with an opening in the interior sufficient for a staircase, leading to the platform;—on the top there were embrasures, but the parapet-wall was not of sufficient thickness to permit of cannon being mounted;—the form is a square."—*Ellis's 'Journal of Lord Amherst's Embassy.'*

United States of America.—The possible destiny of the United States of America—as a nation of 100,000,000 freemen—stretching from the Atlantic to the Pacific, living under the laws of Alfred, and speaking the language of Shakspeare and Milton, is an august conception. Why should we not wish to see it realised? America would then be England, viewed through a solar microscope—Great Britain in a state of glorious magnificence! How deeply to be lamented is the spirit of hostility and sneering which some of the popular books of travels have shown in treating of the Americans! They hate us no doubt, just as brothers hate, but they respect the opinion of an Englishman concerning themselves ten times as much as that of a native of any other country on earth. A very little humouring of their prejudices, and some courtesy of language and demeanour on the part of Englishmen, would work wonders, even as it is, with the public mind of the Americans.—*Coleridge's Table Talk.*

*** The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

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GLASGOW.—No. II.



[Glasgow Cathedral.]

In resuming the account of Glasgow, which was commenced in our last Supplement, we shall give our first attention to the cathedral, of which we are now enabled to furnish an engraving, which, as well as the others, are from original sketches recently taken on the spot. The history of the structure, and some other particulars in connexion with it, having been given in the previous Supplement, we shall now furnish a more detailed description of the exterior than it appeared desirable to give without the accompanying illustration.

The author of a lively and able series of papers under the title of 'Three Weeks in Scotland,' which appeared in 1831 in the 'Church of Ireland Magazine,' and which are understood to have been written by the Rev. Cæsar Otway, the author of 'Sketches in Ireland,'—thus describes the general appearance of the fabric:—"It stands in the centre of an ancient cemetery that slopes down towards a ravine or brae, which is planted, and on the other side of its wooded bank appears a black statue of the dark * John Knox. The whole of the ancient churchyard is flagged with tombstones, around its walls are very venerable monuments, and in the centre rises the only perfect unscathed specimen of the cathedral magnificence of the Romish church in Scotland. Nothing can be more solid, more venerable; I think I never saw a building more designed for durability *,—1090 feet in circumference, supported by 147 pillars, lighted by 157 windows, with a tower and spire rising in the centre. It would really be a fine structure were it not deformed by an ugly and secondary tower that projects from the western corner, surmounted by a stumpy sort of lead-covered spire that casts a grotesque and deformed look over the whole building."

The elevated site of the cathedral renders it a conspicuous object in every direction, the floor of the choir

* We do not understand in what sense the epithet "dark" is applied to John Knox: unless, indeed, it be mere play of fancy upon the preceding word "black."

* Sir Walter Scott was of the same opinion. Andrew Fairservice says, in 'Rob Roy,'—"Ah, it's a brave kirk, none o' yere whigmaleeries and curliewurlies and opensteek hems about it—a' solid weel-jointed mason-wark, that will stand as long as the warld, keep hands and gunpowther off it."

being 104 feet above the level of the river at the foot of Saltmarket Street, at low-water mark. Mr. Mayne, in his poem on Glasgow, says,—

> "High owr tha lave St. Mungo rears
> His sacred fane, the pride of years;
> And, stretching upward to the spheres
> His spire, afar
> To weary travellers appears
> A leading star."

This is one of the few cathedrals that do not bear the form of a cross. It seems, however, to have been originally intended that it should have done so, a south transept having been formed, although, for reasons which do not appear, it was not carried higher than the first tier of arches. The greatest internal length of the cathedral from east to west is 319 feet, the breadth 63 feet, the height of the choir 90 feet, and of the nave 85 feet. From east to west the cathedral is externally divided on both sides into compartments by buttresses of equal dimensions, between which are placed painted windows variously ornamented. This succession of windows is interrupted in the middle of the building by the transverse section of the cross, as well as by two very large windows on the opposite sides of the cathedral, each forty feet high by twenty wide, divided by mullions and tracery of curious workmanship, and placed directly under the great tower. Above this first range of windows the wall terminates in a battlement, within which springs the lowest roof, till it meets the second or inner wall, which rises above the point at which the roof unites it with the outer wall, and, like that wall, is divided into compartments by small square projections, between each of which are placed three narrow Gothic windows, directly above each of those in the first story. This wall then terminates in a battlement, similar to the outer wall, and receives the main roof, which is covered with lead. A square tower rises from the centre of the building to nearly thirty feet above the roof, supported by four massy pillars, each twenty-nine feet six inches in circumference. From this tower arises a tapering octangular spire with diminishing battlements, enlivened by painted windows, and relieved by mouldings and by small spires, which rise from within the first battlement at the bottom of the octagon, the whole terminating in a ball and weathercock at the height of 225 feet above the floor of the choir. The unfortunate tower at the west end has been sufficiently characterised. It contains the bell and clock. Opposite to it, at the other angle of the western front, is another building projecting considerably, like the tower, from the gable of the church. It formed the ancient consistory-house, and by no means contributes to the general harmony of the structure. The grand entrance in former times was at the western end, between these two projecting buildings, by a magnificent gate, seventeen feet high and eleven wide, surmounted by a large window, forty-four feet six inches high, by twenty-three feet six inches wide. This grand entrance is not now used, but the magnificent window has been opened at an expense of upwards of 500*l*.

We have already mentioned the distribution which was made of the interior at the Reformation. We cannot find room for a detailed description of the different parts, but may give the brief murmur in which the Rev. Cæsar Otway indulged on viewing it as it now appears.

He says,—"We entered the fine structure, and I confess I was both pleased and offended,—pleased to observe the noble pillars, the groined interlacings of its rich roof, the multitude of its arches, windows, and grotesque ornaments,—vexed to see the fine *tout ensemble* of the building destroyed by its being divided into two, I may say three, separate churches,—to find both places of worship deformed and pestered with a multitude of little pews, so small that no man could kneel down in one of them, all composed of unpainted deal. I believe the Scotch Presbyterians have an antipathy to paint. I think I never observed the use of a paint-brush in any kirk which I have entered in the land."

There is, however, no question that much taste and judgment have been exercised in the modifications which have been given to the original alterations; and its preservation being mainly owing to the useful purposes to which it might be applied, we have perhaps no right to complain that in adapting it to such purposes much of its uniformity, proportion, and imposing effect has been necessarily diminished. We should probably fail in attempting to persuade the citizens of Glasgow to build two new churches merely that the interior of the Cathedral might be left free and appear to more advantage.

It has already been mentioned that the crypt under the church was employed as another kirk after the Reformation, but is now restored to its former use as a cemetery:—"It is indeed fit for nothing else," says the author of 'Three Weeks in Scotland;' and how any one could have continued to sit in this dark, cold, dismal crypt to hear to an end a Presbyterian minister's long sermon and prayer is to me astonishing." He adds, "It is semi-subterraneous, and so thick and so numerous are the columns, requisite as they are to support all the superincumbent edifice, that there is not more than the space of a man's length between any two individual pillars in the whole crypt. Entering this place and observing the light and shade distributed among its numerous columns, and the mighty arches overspread with their massive and unwrought interlacings; and recollecting not only the grave and quaint people that preached and listened there,—and the old Romish bishops that, together with St. Mungo, lie here interred, I certainly was struck with the solemnity of the scene, and was caught up in the recollections which it gave birth to."

The plan of this Supplement appropriates it more particularly to the class of subjects which bear upon or illustrate the internal condition of Glasgow; under this appropriation our attention will naturally be in the first instance directed to its *trade*. It has already been stated that, previously to the union of the two kingdoms, the foreign trade of Glasgow was very inconsiderable, and was chiefly confined to Holland and France, although not perhaps very disproportionate to the thin population of the town. The Union having thrown the American trade open to the enterprise of the Scotch, the merchants of Glasgow perceived how advantageously they were locally situated for the prosecution of that trade, in which they forthwith embarked with uncommon zeal. Their attention was particularly directed to the tobacco-trade with Virginia, to which ultimately their energies and capital were almost exclusively devoted. This commerce was originally carried on in vessels chartered from the English ports, and it was not until 1718 that a ship built on the Clyde, and belonging to Glasgow, crossed the Atlantic. Very little other foreign trade was attempted, and any small manufactures that were carried on were chiefly to meet the demands of the Virginia market. The supply of that province with European goods, taking tobacco in return, became nearly a monopoly in the hands of the Glasgow mer-[illegible] so that the port became the great European [illegible] tobacco. The extent of the trade may be [illegible] from the fact, that for several years previous [illegible]e American war of independence the annual [illegible]rts of tobacco to the Clyde amounted to from [illegible]5,000 to 45,000 hogsheads, and to no less than 57,143 hogsheads in the year immediately preceding that event.

It seems that, up to the middle of the last century, commercial concerns of every description were almost exclusively carried on by what may be called joint-stock companies of credit. Six or eight responsible persons formed themselves into a company, and advanced each 100*l.* into the concern, borrowing on the personal bonds of the company whatever further sums might be necessary for the undertaking. It was not until at a later period, when large amounts of commercial capital had accumulated in the country, that individuals, or even companies, were to be found trading extensively on their own capital. In these partnerships, one of the partners acted as manager, and the others did not interfere. "The transactions consisted in purchasing the goods for the shipments made twice a year, and making sales of the tobacco which they received in return. The goods were bought upon twelve months' credit, and when a shipment came to be paid off, the manager sent notice to the different furnishers to meet him on such a day, at such a wine-shop, with their accounts discharged. They then received the payment of their accounts, and along with it a glass of wine each, but for which each paid. This curious mode of paying off these shipments was contrived with a view to furnish aid to some better-born young woman whose parents had fallen into bad circumstances, and whom it was customary to place in one of those shops, in the same way that, at an after period, such a person would have been put into a milliner's shop. These wine-shops were opposite the Tontine Exchange, and no business was transacted but in one of them *."

Subsequently the same account thus speaks of the aristocratic bearing of the principal Glasgow merchants at this period:—"Prior to the breaking out of the American war, the Virginians, who were looked up to as the Glasgow aristocracy, had a privileged walk at the Cross, which they trod in long scarlet cloaks and bushy wigs, and such was the state of society, that when any of the most respectable master tradesmen of the city had occasion to speak to a tobacco lord, he was required to walk on the other side of the street till he was fortunate enough to meet his eye, for it would have been presumption to have made up to him. * * * Latterly the rising generation of the middle class, better educated than their fathers, engaged extensively in trade and commerce, and by honourable dealing and correct conduct, procured a name and a place in society which had been hitherto reserved for the higher grades. Wealth is not now the criterion of respect, for persons even in the inferior walks of life, who conduct themselves with propriety, have a higher place assigned them in society than at any former period of the history of the city."

The breaking out of the war with America, in 1774, having put a stop to the large and lucrative transactions between Glasgow and Virginia, the merchants and monied men of the city were constrained to consider to what other objects their enterprise and capital might be most advantageously directed. Most fortunately for the ultimate prosperity of the city (which at present does not result from either its commercial or manufacturing importance, taken separately, but from the combination of both under the most favourable auspices), their attention was particularly directed towards manufactures, several branches of which were thenceforward successively taken up and cultivated with equal zeal and success. It is interesting to calculate the probability that Glasgow would never have been an eminent manufacturing town, and consequently would never have attained its present prosperous condition, if it had not happened that just at that juncture the recent improvements discovered by Arkwright in the process of spinning cotton-wool, led the different manufacturing towns in Scotland to attempt to introduce the manufacture of muslins into that country; and the success which Glasgow made in this attempt must, no doubt, be in a great degree attributed to the circumstance that the American war left a great amount of capital vacant to be applied to its encouragement, and to the formation of numerous works for the manufacture of the different kinds of cotton-cloths on a large scale.

When peace was concluded between this country and the United States, in 1783, the merchants of Glasgow hastened, with all the advantages which they had meanwhile gathered, to renew their former relations, and to form new ones with the different states of the Union. It was a most fortunate circumstance for this trade that the cultivation of the cotton-plant was, a few years after the peace, introduced into the southern states of the American Union; for it not only furnished the means for a great extension of the trade, but in another way operated most importantly on the manufacture, as, according to the obvious statement of Dr. Cleland in his 'Annals,' "without this new field to supply the quantity of the article which the growing demands of the manufacturers required, and of the qualities united to the different fabrics to be made, this important branch of industry never could have reached that high state at which it has arrived. The bringing home this article for the manufacturers of Glasgow, and sending out the returns, became a great trade, and led to the formation of establishments for carrying on this part of the business at Charleston and New Orleans." Besides their trade with the United States, the merchants of Glasgow have extensive dealings with Canada and Nova Scotia

Another great branch of the Glasgow commerce—that with our West Indian colonies—was not very considerable or beneficial previously to the American war. It has acquired its chief importance since the war of 1793, when the colonies of other European powers in that quarter having fallen into our hands, their habits of intercourse with America enabled the Glasgow merchants to obtain a large share of the trade which this country in consequence obtained. In the year 1775, the importations from the West Indies into the Clyde were only 4621 hogsheads and 691 tierces of sugar, 1154 puncheons and 193 hogsheads of rum, and 503 bags of cotton. In 1815, the imports had increased to—sugar, 540,198 cwts.; rum, 1,251,092 gallons; cotton-wool, 6,530,177 lbs.

Glasgow was about two years behind Liverpool in despatching a vessel to India, after the trade to the East, with the exception of China, had been thrown open to private adventurers on the last renewal but one of the East India Company's charter. The first vessel from Scotland bound direct to India was despatched for Calcutta in the spring of 1816: she was called the Earl of Buckingham, burden 600 tons. Since then a number of other enterprising merchants of Glasgow have engaged in the India trade. In the year 1833 ten vessels, of 3437 tons burden, entered at Greenock and Port Glasgow from places eastward of the Cape of Good Hope, exceeding in this every single port except London and Liverpool. It only remains to add under this head that, when the remaining commercial monopoly of the East India Company was withdrawn in 1834, the merchants of Glasgow delayed not to avail themselves of this new opening for their capital and enterprise; for the first vessel, unconnected with the East India Company, which, on the opening of the China trade, arrived in Britain, was the Camden, chartered by a Glasgow merchant; and the cargo of which, consisting of bohea, congou, and other teas, was sold in the Royal

* Cleland's 'Statistical Account.' This, and what comes after, is apparently quoted there from Mr. Bannatyne's Scrap Book; but the context does not render this quite clear.

Exchange Sale Room on the 14th of November, 1834, and the sale was attended by many London and Edinburgh merchants.

The number of vessels that entered at Glasgow and Greenock from foreign parts in 1833, was 399, of 81,499 tons burden, including twelve foreign ships of 2459 tons. The gross amount of the customs collected in the same year at Glasgow, Greenock, and Port Glasgow, was 779,232*l.*, being a larger amount than was collected at any single port of the United Kingdom, except London, Liverpool, and Bristol.

Manufactures.—The trade and manufactures of Glasgow received, during their infancy, the fostering care of bounties and special patronage. In the seventeenth century, parliament exempted the whole materials used in certain manufactures from duty. On the 31st of January, 1638, "'Robert Fleyming and his partners made offer to the town-council to set up a manufactory in the city, wherein a number of the poorer sort of people may be employed, provided they met with sufficient countenance. On considering which offer, the council resolved, in consideration of the great good, utility, and profit which will redound to the city, to give the said company a lease of their great lodging and backyard of the Drygate, excepting the two front vaults, free of rent, for the space of seventeen years. On 8th May thereafter, the deacon-convener reported that the freemen-weavers were afraid that the erecting of the manufactory would prove hurtful to them. On which, Patrick Bell, one of the partners, agreed that the Company should not employ any unfree weavers of the town."

As we have not room to trace chronologically the rise and progress of the arts and manufactures of Glasgow, we must content ourselves with selecting the more remarkable of those branches which give importance to the city. The capital driven from the trade in tobacco on the outbreak of the American war, was, as we have seen, directed to other pursuits; and the celebrated inventions in the cotton manufacture successively perfected by Hargreaves, Arkwright, and Crompton, coming into use, opened a new and extensive field for the employment both of ingenuity and capital. The manufacture of linens, lawns, cambrics, and other articles of similar fabric, was introduced into Glasgow about the year 1725, and continued to be the staple manufacture till they were succeeded by muslins. But the positive activity of the cotton manufacture in Glasgow cannot be dated earlier than about the commencement of the present century. Before that period the mills established might be considered as experiments, on which a considerable amount of ingenuity and capital was expended before the business could be regarded as at once—to use an expressive commercial phrase—safe and comfortable. In the year 1792 Mr. William Kelly, of Glasgow, at that time manager of the Lanark mills (so well known from the subsequent connexion of Mr. Robert Owen with them), obtained a patent for an improvement on Crompton's mule jenny. But, much to his honour, he allowed every one freely to avail himself of its advantages. Another improvement was made in 1795 by Mr. Archibald Buchanan, who was connected with the firm of James Finlay and Co. "Having constructed very light jennies, he dispensed altogether with the employment of men as spinners, and trained young women to the work. . . . . This system has, from time to time, been partially adopted at other works in Scotland and England, but men are still more generally employed.*"

In July, 1834, Mr. Leonard Horner, one of the Factory Commissioners, reported that, "In Scotland there are 134 cotton-mills; that with the exception of some large establishments at Aberdeen, and one at Stanley, near Perth, the cotton manufacture is almost entirely confined to Glasgow and the country immediately adjoining to a distance of about twenty-five miles radius; and all these country mills, even including the great work at Stanley, are connected with Glasgow houses, or in the Glasgow trade." In the six counties of Lanark, Renfrew, Dumbarton, Bute, Ayr, and Perth, there are 123 cotton-mills, nearly 100 of which belong to Glasgow. From the year 1818 to 1834, the importation of cotton-wool, for the consumption of Scotland, exhibits a progressive increase from 46,565 to 95,603 bales.

Intimately connected with the cotton-trade is the manufacture of steam-engines, especially as applicable to the trade and manufactures of Glasgow. Watt, though born in Greenock, may be regarded as peculiarly a Glasgow man, as it was in the latter place he laid the foundation of that education, and the union of philosophical and practical habits, which enabled him to carry into perfection his projects for the improvement of the steam-engine. On the expiration of the exclusive privilege which had been granted to him in connexion with Boulton, the engineers of Glasgow commenced making steam-engines; and to such an extent is the business carried on there, that in the present year the number of firms who make steam-engines or mill-machinery is thirteen, three of which alone employ upwards of a thousand individuals. Dr. Cleland ascertained that in Glasgow and its suburbs there are thirty-one different kinds of manufactures where steam-engines are used; and that in these, and in collieries, quarries, and steam-boats, there are 355 steam-engines, equal to 7366 horse power, the average power of each engine being rather more than twenty horses each.

Since the year 1830, the spinning of Cashmere and Merino wool into yarn on the French principle has been successfully established in Glasgow. The late Captain C. S. Cochrane, of the royal navy, obtained two separate premiums of 300*l.* each from the Board of Trustees for the Encouragement of Arts and Manufactures in Scotland, for his success in discovering the processes adopted in France, and establishing them in this country. The spinning of these yarns is carried on by Houldsworth and Sons in Glasgow, and, notwithstanding the cheapness of labour in France, with so much skill and success, as to enable them to compete, in every respect, with the manufactures of that kingdom, even although French yarns can be admitted into Britain duty free. There is no reason to doubt, therefore, that the spinning of these fine wools, when the goods manufactured from them are more generally appreciated, will become an extensive and profitable employment.

The coal and iron fields around Glasgow are very extensive. In 1831 the supply of coals to the city came from thirty-seven pits; the quantity brought in that year was 561,049 tons, of which 124,000 were exported, leaving 437,049 tons for the use of the inhabitants. There were in December, 1834, ten iron-work companies in Scotland, employing twenty-eight furnaces, which consume annually 72,500 tons of fuel; and all these furnaces, with the exception of five, are in the neighbourhood of Glasgow; and even of the five none are more than thirty miles distant.

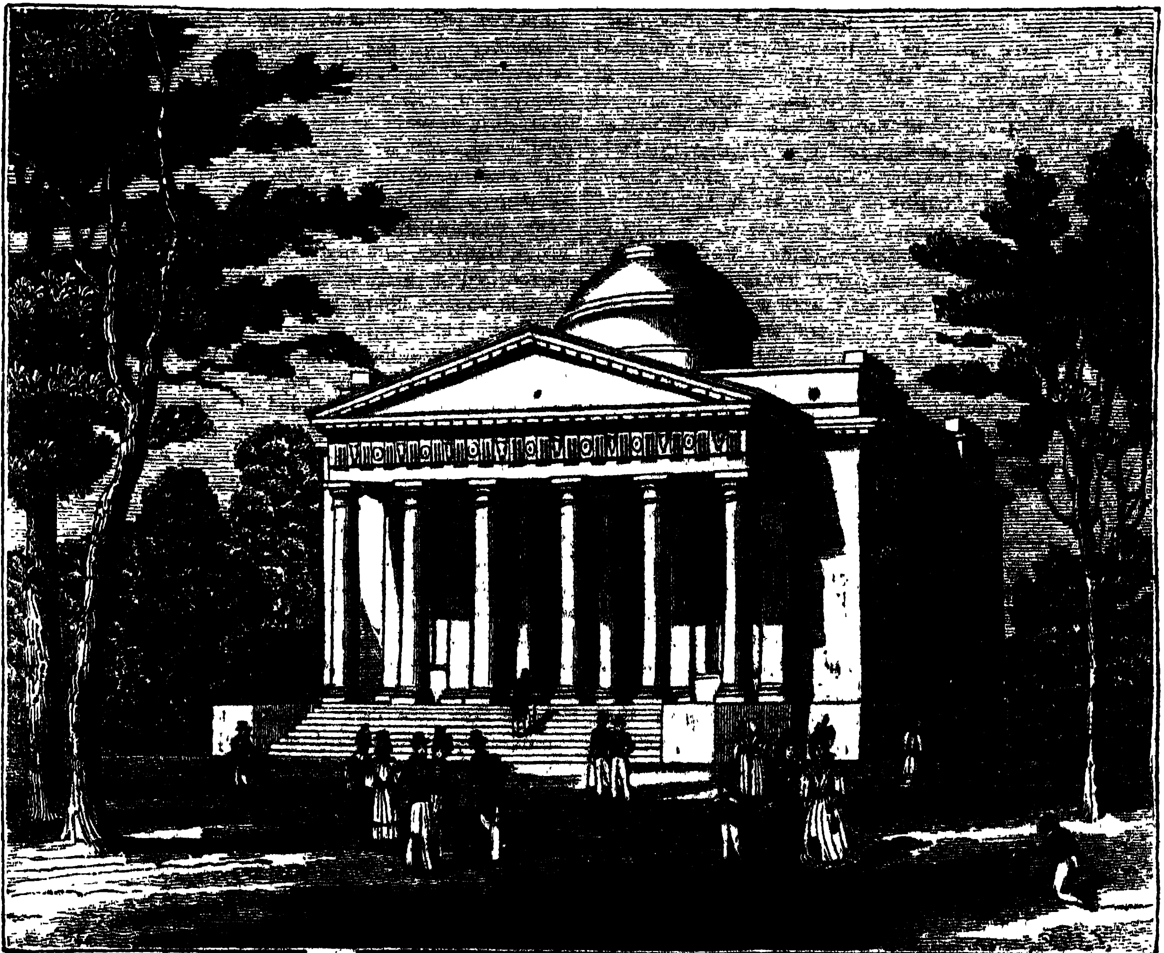
Though the citizens of Glasgow, from their intense devotion to commercial pursuits, have not been celebrated for their attachment to and attainments in literature, yet printing and publishing, especially in connexion with the University, have made great progress. Letter-press printing was introduced in 1638. But the celebrated printers, Faulls (improperly, says Dr. Cleland, termed Fowlis), raised the character of printing very high by the beautiful editions, especially of classical works, which issued from their press. The elder

* Cleland.

Faulls was appointed, in 1743, printer to the University; and in 1744 appeared an edition of Horace, the proof sheets of which were hung up in the college, and a reward offered to any one who should discover an inaccuracy. By the year 1746 the Faulls had printed eighteen classics, beside other works. In more recent years the late Mr. Chapman and the Messrs. Duncan, printers to the University, were distinguished for the spirit and taste which they exhibited in the typographic art. In connexion with printing, is the art of letter founding. It was introduced into Glasgow in the year 1718, but was brought to great perfection in 1740 by Mr. Wilson, afterwards Professor of Astronomy in the University, whose grandchildren continued the proprietors of the extensive letter-foundry in the city, so widely known both in Britain and on the Continent up to the year 1834. The Greek types produced in this letter-foundry have long been admired, and were preferred by the printers and literati of Germany to all others. Since 1834 the business of the Messrs. Wilsons has been transferred to letter-foundries which they have established in Edinburgh and London.

The most extensive chemical manufactory in Europe is situated in Glasgow. This establishment, carried on under the firm of Charles Tennant and Co., covers ten acres of ground, and within its walls there are buildings which cover 27,340 square yards. There are upwards of 100 furnaces, retorts, and fire-places in the premises. In one apartment there are platina vessels to the value of 7000*l*. The establishment burns upwards of 600 tons of coals weekly. It was established in the year 1800, for the manufacture of sulphuric acid, chloride of lime, soda, and soap.

The manufacture of bandanas has been chiefly confined to Glasgow. An attempt was made on the continent, but it proved unsuccessful. The establishment of Messrs Monteith and Co., at Barrowfield, near Glasgow, is very magnificent. This firm, besides the manufacture of bandanas, carry on cotton-spinning and calico-printing.



[Hunterian Museum.]

Education and Literature.—We have already noticed that in consequence of its close connexion with the hierarchy, the University of Glasgow was almost ruined at the Reformation. But James VI., in his minority, during the Regency of Morton, in 1577, bestowed upon it some ecclesiastical property, and at the same time granted a new charter of foundation, regulating the constitution of the establishment, and confirming prior privileges. The various grants and donations of ecclesiastical and other property which then and after it received from the crown and different individuals, in the end brought the institution to a condition of greater efficiency than before. The funds arising from endowments are appropriated to the payments of professors' salaries and certain stipends, as well as to the support of the college buildings and other necessary purposes. The University may be regarded as a prosperous institution, the revenues being, as one of the local historians remarks, "sufficient, with economy, to promote useful improvements; but not so large as to be productive of idleness and the luxury of learned indolence." The increased value of real property has enabled the establishment to increase, from time to time, the number of its professors. Originally the teaching body consisted of a principal, who taught theology, and three professors of philosophy. At present the governing and teaching body consists of a chancellor, a rector, a dean of faculty, a principal, and twenty professors. Formerly, the office of chancellor was invariably held by the bishop of the diocese; but since the esta-

blishment of Presbyterianism, the office has usually been filled by some nobleman or gentleman of rank in the country*. The chancellor is the head of the University, presides in all its councils, and degrees are bestowed in his name. The rector is chosen annually in the *comitia*, an assembly in which all the students have a voice as well as the other members of the University. On this functionary, who is usually some prominent political or literary character of the day, the duty devolves to maintain the rights of the University, to judge in all disputes between the students among themselves, and between them and the citizens; and to summon and preside in certain meetings of the University. The office of dean of faculty is held for two years: he is chosen by the rector, principal, and professors; and his business chiefly consists in giving directions concerning the course of studies. The principal is appointed by the king, and has the ordinary superintendence of the deportment of all the members of the University, and is first professor of divinity. The principal with the professors, form a meeting, to which the administration of the revenue is exclusively intrusted. The professors may be divided into four distinct faculties, according to the branches of knowledge to which they are respectively assigned. The faculty of arts comprises the professors of Latin or humanity, Greek, logic, ethics, natural philosophy, astronomy, and natural history: the faculty of theology contains, besides the principal, three professors, namely, of divinity, church history, and oriental languages: the faculty of law contains only the single professorship of civil law: the faculty of medicine embraces the professorships of anatomy, medicine, materia medica, surgery, midwifery, chemistry, and botany. Thus the whole of the professorships amount to twenty; besides which there is, in the medical faculty, a lectureship on diseases of the eye. The number of the students is generally somewhere near one thousand. The students have the use of the University library under certain conditions and an annual payment. It was founded in the fifteenth century, and contains a valuable and extensive collection of books. The Hunterian Museum (of which we now give a wood-cut) promotes, in many important respects, the objects of the institution; and the botanical students have the advantage of an interest which the University possesses in the botanical garden which has been formed in the neighbourhood of the city by the citizens of Glasgow. The University contributed 2000*l.* to the object. The garden, which consists of eight acres, was opened in 1818, and is not exceeded by any botanical garden in the kingdom, in its collection of various rare plants from every part of the world.

There was a grammar-school at Glasgow prior to the establishment of the University. It existed in the early part of the fourteenth century, and depended immediately on the cathedral. It remained a distinct establishment after the foundation of the University, but we know nothing of the plans on which it was conducted previously to the early part of the last century, except that the office of master was considered highly respectable, and that great care seems to have been taken to supply it with efficient teachers. Towards the end of the sixteenth century the school met at five o'clock in the morning. The institution is now managed by a committee of the town-council, aided by the clergy of the city and the university professors. It had formerly four masterships; but in 1834 it underwent such alteration as to be now rather an academy than a grammar-school. Two of the masterships, for Latin and Greek, have been abolished, and their place supplied by teachers of English grammar, French, Italian, German, elocution, writing, arithmetic, geography, and mathematics. Its name also has been changed to that of the High School.

The institution commonly called the Anderson University, or Andersonian Institution, was founded by the will of Mr. John Anderson, professor of natural philosophy in the University, who bequeathed his valuable apparatus, museum, library and other effects to eighty-one trustees for the establishment of a college in the city for arts, medicine, law, and theology. Anderson died in 1795, and the institution was incorporated in 1796, in which year its operations commenced by the reading, in the Trades' Hall, to persons of both sexes, popular and scientific lectures on natural philosophy and chemistry, illustrated by experiments. Dr. Garnett was the first professor, and, on his removal to London in 1799, was succeeded by Dr. George Birkbeck, who, in addition to the former course of instruction, introduced a familiar system of philosophical and mechanical information, demonstrated by experiments, to 500 operative mechanics free of expense. 'This mode of tuition,' says Dr. Cleland, who seems to have himself taken an active part in this as in every other good work, 'by which philosophical subjects were explained in ordinary language, divested of technicalities beyond the comprehension of the students, is continued with great success, at a small expense, and has been productive of the happiest effects on a valuable class of society.' Dr. Birkbeck resigned the professorship in 1804, and returned to London; being succeeded by Dr. Andrew Ure, who during twenty-five years discharged the arduous duties of this office with great ability and success, when he also removed to London. The institution is in a prosperous condition, and removed a few years since to the grammar-school buildings, which were purchased by the trustees, and so improved as to afford numerous halls for the professors and for the museum, which has become very rich in the several departments. The lectures now embrace an extensive list of subjects in the various branches of human knowledge.

The Mechanics' Institute, founded in 1825, does not in its plan and constitution differ much from similar establishments elsewhere. In the building there are commodious apartments for the numerous models and apparatus, and for the library, which consists of upwards of 3000 volumes on science and general literature. In the session of 1834 there were three professors, who gave lectures on natural philosophy, chemistry, popular anatomy, physiology, and phrenology. The fee for the course is 8*s.*, but a certain number of poor apprentices are admitted without payment both to the lectures and the library. The number of regular students has averaged 500 yearly since the commencement of the institution; besides 220 apprentices, who have been admitted gratuitously within the same period.

Concerning the common schools, there is little information later than that given in 1816 by Dr. Cleland in his 'Annals of Glasgow.' It there appeared that, exclusively of the University and thirteen institutions where youth were educated, there were 144 schools; and that, including the public institutions, there were 16,799 scholars, of whom 6516 were taught gratis in charity-schools. These schools were all in a district containing a population of about 75,000. This statement, though not full or recent, is useful as furnishing an approximation to the ratio which probably holds in the more extended district and increased population. The same persevering inquirer ascertained, in 1820, that there were, within the royalty, 100 Sunday-schools with 158 teachers and 4668 scholars, (2235 boys and 2433 girls,) besides three adult-schools, in which were three teachers with 25 male and 54 female scholars. An infant-school society was instituted in 1827, and now there are six infant-schools in the town, and three more in contemplation for the suburbs. We learn

* The dukes of Montrose have been chancellors since 1715.

from Porter's Official Tables that, at Glasgow, "the fee for teaching reading to the children of the working-classes is 3s. 3d. per quarter, equal to a half-penny per day;" and that, "at this rate, children are taught four hours during five days in the week, and two hours on Saturdays."

Although, as we have seen, Glasgow does not make claim to much distinction in respect of literature, there are many individuals of cultivated minds and large attainments who have in some instances formed themselves into societies for the promotion of science and literature. The first circulating library in the West of Scotland was established at Glasgow in 1753, by Mr. John Smith, who lent out books at the rate of a halfpenny the volume. There are now many circulating libraries, as well as public and private libraries, at Glasgow. Book-societies have also been established of late years: the plan of these is similar to that of the circulating libraries, with the difference that the books belong to the readers themselves, who are chiefly of the working-classes. Attempts have been made during the last thirty years to establish Magazines and other periodical works at Glasgow, but hitherto they have not succeeded. Newspapers have been more fortunate. The first newspaper published in the West of Scotland was the 'Glasgow Courant,' in the year 1715. It was published three times a-week, consisted of twelve pages in small quarto, and was sold for three-halfpence, or "one penny to regular customers." From 1715 to 1835, twenty-one attempts to establish newspapers have been made in Glasgow, and of this number eleven still survive. Two of these are published three times a-week, five twice, and the rest once; so that altogether there are twenty newspapers published weekly.

Miscellaneous Facts.—The various works of Dr. Cleland, particularly his 'Statistical Account of Glasgow*,' contain various curious facts which strikingly illustrate the condition of Glasgow at different periods. We shall devote our remaining space to a few of the most important or interesting, occasionally adding something from other sources.

Prior to the Reformation in 1560, the population were in a state of great ignorance and superstition, and so disorderly, that, before and after that event, even the ministers of religion found it necessary to wear arms in the pulpit.

In 1610 the town council enacted that there should be no dunghills in the fore streets, nor in any of the markets, under the penalty of 13s. 4d.; and that no timber should lie in the High Street above a year and a day, nor any turf stakes or lint be dried upon the High Street under the same penalty; and that the fruit, kail, and onion cramies†, stand between the gutter and the house, and that each stand and flake‡ be an ell in length and breadth.

In 1649, the number of the poor in the several quarters of the city was ascertained, and an allowance was given them. The full maintenance was 1s. 6d. weekly, and the magistrates afterwards applied for settling a stent§-roll, which, together with the weekly collections, was given them for their allowance, and beggars were not allowed in the streets or at doors, and constables were appointed for that end in every quarter. Such as would not pay their monthly stent for the poor were to be debarred from the communion.

Until about 1785, the public markets and a few shops were the only places where the inhabitants could be supplied with necessaries. Now the markets are comparatively deserted, the great extension of the town having induced people to resort to shops in their immediate neighbourhoods rather than to distant markets. Butchers' shops are now open in all the principal streets, for which 80l. a-year are paid by some butchers, who might have stalls in the market rent free. This dispersion of shops is practically a very great convenience to householders; but we agree with Dr. Cleland in thinking that, although butchers' shops in the streets may not be deemed a legal nuisance, they are in the highest degree offensive and revolting, particularly from the practice of hanging out the animals entire, with great holes in their necks, previously to being quartered. This ought to be forbidden as a most horrid exhibition, to which only custom could reconcile us, and which, notwithstanding custom, is intolerable to many. When Deacon Peter Brown was bound apprentice to the flesher's trade in 1763, the slaughter of bullocks was not known in Glasgow, a few milch cows only being killed throughout the year. When the same person commenced business in 1771, he sold roasting pieces of beef at 3d. per lb., and a quarter of lamb at from 2½d. to 9d., according to season, quality, and size. The present consumption will be best understood from a statement of the live cattle sold in the market. But it deserves to be noticed, that since 1822, it has been an increasing practice to send rumps of beef from Edinburgh to Glasgow; and it is certainly not a little remarkable that the metropolis should send the prime parts of beef to a manufacturing town for consumption. In 1833, the number of rumps thus sent to Glasgow was 7210, averaging 20s. each. The live-cattle market is entitled to particular attention; and it is much to be regretted that a similar and still more important establishment for the great metropolis of the empire, where it is more urgently required, although on different grounds, should hitherto have been rendered inoperative. Previously to the establishment of a market at Glasgow, the principal butchers of the city were obliged to travel a circuit of seventy or eighty miles to purchase cattle in lots, and to rent expensive parks in the neighbourhood to graze them in. This inconvenience has been obviated by the new market, which was fitted up by the magistracy in 1818, by the advice and at the instance of Dr. Cleland, who says, "I consider myself fortunate in projecting this establishment, and in being permitted to bring the market to its present state. It occupies an area of 29,561 square yards, or rather more than six imperial acres,—is paved with whinstones, and enclosed with stone walls. It contains a commodious inn, stables, sheds, a byre to hold 120 bullocks on view, and pens for containing 9800 sheep. The sales in this market amounted, in 1833, to 18,360 bullocks and cows, and 147,200 sheep and lambs; being 165,560 in all, exclusive of hogs and calves. The value of the butchers' meat consumed in the city and suburbs was, in 1831, computed at 834,000l., exclusive of pork and veal.

Prior to 1776 there were no foot-pavements in the city or suburbs; in 1832 there were upwards of 100 miles of pavements. The first common-sewer at Glasgow was made in 1790; in 1832 there were upwards of seven miles of sewers.

The first lamp which was lighted with gas in the streets, was put up in the Trongate in September, 1818. In 1831 the Gas Company had laid upwards of 100* miles of gas-pipes in the streets. There are 152 retorts in the works, each capable of making 200 cubic feet of

* Throughout the present Supplement we are largely indebted to this admirable work, making use of the second edition, 1832. It is quite safe to say that the internal condition of no city in the world has ever been so completely illustrated as that of Glasgow has been through the long-continued and arduous exertions of this gentleman, whose example we earnestly hope that influential persons in our other principal towns will be stirred up to imitate.

† Small wooden shops, booths, or stalls, projecting from the adjoining walls.

‡ Hurdle.

§ Stent means a taxation, or a valuation of property in order to taxation.

* In 1835 increased to 110.

gas in the twenty-four hours. In generating the gas, 9350 tons of cannel coal are consumed every year.

On the 1st of January, 1812, there were no steam-boats in Europe. In the latter end of that month Henry Bell launched the "Comet" at Glasgow. In 1835 there were fifty-four steam-boats on the Clyde at Glasgow, whose tonnage amounted to 4987 tons.

The first mail-coach from London arrived at Glasgow on July 7, 1788. In that year the mail took sixty-three hours to make the journey from London to Glasgow; in 1832 it took no more than forty-four hours. Hackney-coaches are few in number, considering the wealth and population of the city. There were but twelve in 1832; there were twenty-seven in 1800. In 1834 there were sixty-one stage-coaches which departed from and returned to Glasgow, during 313 days, each averaging twelve passengers—the number was 458,232 in the year; by thirty-seven steam-boats, twenty-five passengers each, 579,050; by the swift boats on the Forth and Clyde navigation and Union Canal, 91,975; by the light iron-boats on the Paisley Canal, 250,000; Monkland Canal, 31,784; Glasgow and Garnkirk Railroad, 118,882: making the gross number of passengers amount to 1,529,923.

The city, considered in its largest extent, contained 43,357 houses in 1831, of which 1759 were uninhabited, and there were then 156 new houses in course of erection. The population of 202,426 comprehended 46,195 males of 20 years old and upwards, whose occupations are thus specified in the 'Population Returns.' Agriculture:—occupiers employing labourers, 23; occupiers not employing labourers, 63; labourers employed in agriculture, 101. Employed in manufactures, or in making manufacturing machinery, 19,313: employed in retail trade or in handicraft, as masters or workmen, 18,832; capitalists, bankers, professional and other educated men, 2723; labourers employed in labour not agricultural, 574; other males twenty years of age, except servants, 4012; male servants, twenty years of age, 554; under twenty years of age, 392. The female servants amounted to 8006. The rate of increase in the population between 1821 and 1831 was 37½ per cent. in Glasgow, 19¾ in London, 17½ in Edinburgh, 9½ in Dublin, 38¾ in Liverpool, 37½ in Birmingham, 36½ in Manchester. The Glasgow population (then 202,426) consisted of 163,600 Scotch, 2919 English, 35,554 Irish, and 353 foreigners. The Presbyterians numbered 104,162, the Dissenters and Episcopalians 71,299, Roman Catholics 26,965. The number of delinquents imprisoned in 1831 was 758, besides 630 debtors. From 1763 to 1830 there were only two years (1819 and 1820) in which so many as six criminals were executed; only one year (1823) in which so many as five; and only four in three of the remaining years. The subscriptions to various charitable and benevolent associations, exclusive of widows' funds, benefit societies, charity schools, and maintenance of paupers, was 30,039*l.* in the year 1834. In 1830 there were in the city and suburbs 5006 paupers, maintained at an expense of 17,282*l.* In the same year there were 1393 persons holding licenses to sell spirituous liquors. In 1832 Dr. Cleland estimated the number of houses where dissolute and suspicious persons of both sexes were entertained at 250; and the number of females who live in or frequent houses of bad fame, in the town and suburbs, at 3000.

Most of the authorities made use of in the present Supplement have been mentioned; we may, however, repeat, that the largest assistance has been afforded by the various works of Dr. Cleland, being the 'Annals of Glasgow,' the 'Statistical Account of Glasgow,' and the articles 'Glasgow' in the 'Edinburgh Encyclopædia' and the 'Encyclopædia Britannica,' the first of which is his acknowledged production, and the last commonly attributed to him. We have also been helped by Denholm's 'History of Glasgow,' the 'Church of Ireland Magazine,' the 'Population Returns for 1831,' and Porter's 'Official Tables of Revenue, Population, Commerce,' &c., published in 1834.



[Monument of John Knox.]

*** The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.
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MOUNT SINAI.



[Ascent to Mount Sinai, from the 'Voyage en Arabie Petrée, par MM. Leon et Laborde.']

The Peninsula formed by the two branches in which the gulf called the Red Sea terminates, constitutes part of the wild and desolate region which has been well designated Arabia Petræa or Arabia the Stony. In characterising this region, Sir Frederick Henniker uses expressions, the suitableness of which will be best recognised by those who have had occasion to look down from elevated points upon similar scenes. He calls it "a sea of desolation," and following out the idea, adds,—"It would seem as if Arabia Petræa had once been an ocean of lava, and that, while its waves were literally running mountains high, it was commanded suddenly to stand still." The whole of this region is composed of bare rocks and craggy precipices, among which narrow defiles and sandy valleys are interspersed. There is little vegetation. Many of the plains are covered with loose flints and pebbles, and others are sandy. The few plants and shrubs that are to be found are such as love a dry sandy soil, or such as contrive to draw nourishment from the fissures of the rocks, or from a thin mixture of clay, which may be found in some parts of the soil. Rain rarely falls in this wilderness, and fountains or springs of water are exceedingly rare; and when found, the water is generally either brackish or sulphureous, but not unwholesome.

In the central part of this peninsula stands the group of the Sinai mountains, to which great celebrity has been given by its connexion with several important circumstances in the migration of the Israelites from Egypt to Palestine. Burckhardt thus speaks of the whole as viewed from the elevated peak of Mount St. Catherine, from whence the direction of the different surrounding chains of mountains could be distinctly traced. "The upper nucleus of the Sinai, composed almost entirely of granite, forms a rocky wilderness of an irregular circular shape, intersected by many narrow valleys, and from thirty to forty miles in diameter. It

contains the highest mountains of the peninsula, whose shaggy and pointed peaks, and steep and shattered sides, render it clearly distinguishable from all the rest of the country in view. It is upon this region of the peninsula that the fertile valleys are found which produce fruit trees; they are principally to the south and south-west of the convent of St. Catherine, at three or four hours distant. Water is also found in plenty in this district, on which account it is the place of refuge to all the Bedouins when the low country is parched up."

Its advantage in this respect may have operated in the selection of the spot for the encampment of the Israelites, who remained here nearly a year; for there seems little doubt that this upper country or wilderness formed exclusively the desert of Sinai, so often mentioned in the account of their wanderings. It is perhaps impossible to ascertain with distinctness which of the different elevations comprised in this chain form the "Horeb," where Moses received the call to his great work, or the "Sinai," where the tables of the law were committed to his hands. There has been a good deal of discussion on this point, into which we do not feel it necessary to enter, contenting ourselves with an account of the part of the group to which that distinction is restricted by local traditions and religious establishments, and to which the descriptions of travellers more particularly refer. Those who wish for more detailed information concerning this region and its various elevations will do well to consult the full account which is given in Burckhardt's 'Travels.'

The sacred part of the Sinai group consists of two adjoining elevations, or, perhaps we should say, one mountain with two summits, respectively known as "Gebel Mousa" (Mount Moses), and "Gebel Katerin" (Mount Catherine); the former being, in common opinion, Sinai, and the latter, Horeb. Without attempting to set the matter right, we must observe that some authorities incline to reverse this arrangement; considering Gebel Mousa as Horeb, and Gebel Katerin as Sinai; while others question whether either of the two has any just claim to be considered as Sinai or Horeb. A more elevated summit, with five peaks, to the westward, called Mount Serbal, seems to have been at some early time considered as the "Mount of Moses*." On this mountain Burckhardt found the foundations of a large edifice, the ruins of a stone reservoir on the lower summit, blocks of granite with inscriptions on different parts, even near the highest summit, where also that able traveller found steps regularly formed with large loose stones which must have been brought from below, and which are so judiciously arranged along the declivity, that they have resisted the devastation of time, and still materially assist the ascent. He was afterwards told that these steps "were the continuation of a regular path from the bottom of the mountain, which is in several parts cut through the rock with great labour." Between some of the masses of stone, near this same summit, there are small caverns large enough to shelter a few persons, and the sides of which have inscriptions similar to those on the blocks. There are no inscriptions on either the Gebel Mousa or Gebel Katerin, except in the latter above the rock from which the water is said to have issued, and which may be distinctly traced as the work of pilgrims. From all these circumstances, Burckhardt concludes:—"I am persuaded that Mount Serbal was at one time the chief place of pilgrimage in the peninsula, and that it was then considered as the mountain where Moses received the Tables of the Law; though I am equally convinced, from a perusal of the Scriptures, that the Israelites encamped in the Upper Sinai, and that either Djebel Mousa or Mount St. Catherine is the real Horeb. It is not at all impossible that the proximity of Serbal to Egypt may at one period have caused that mountain to be the Horeb of the pilgrims, and that the establishment of the convent in its present situation, which was probably chosen from motives of security, may have led to the transferring of that honour to Djebel Mousa. At present neither the monks of Sinai nor those of Cairo consider Mount Serbal as the scene of any of the events of sacred history, nor have the Bedouins any tradition respecting it: but it is possible that, if the Byzantine writers were thoroughly examined, some mention might be found of this mountain, which I believe was never before visited by any European traveller."

* This must be understood as a comprehensive term, implying both Sinai and Horeb, in this article.

A good deal of the uncertainty and confusion attending this question has arisen from the manner in which the sacred writers indiscriminately apply the terms "Horeb" and "Sinai" to the scene of the same transactions, employing them as convertible terms. This has led to the conclusion that, as in the now recognised spot, the two must be twin summits of the same mountain. But this conclusion is of doubtful foundation. It is not clear that Horeb is used as the name of a mountain at all, but rather of the rocky district in which the mountain Sinai stood. However, whether we consider Mounts Moses and St. Catherine as one mountain, under the name of Sinai, or as two, under the names of Horeb and Sinai, the particular mass of rock which it denotes has the balance of opinion and circumstance in favour of its being the true site of those important transactions which render the spot almost equally venerable in the eyes of Jews, Christians, and Mohammedans *.

It requires a word of explanation, why so oddly inappropriate a name as that of St. Catherine should have been given to Horeb. The fact is, that there is at the foot of the mountain a celebrated convent called after this saint; although it was originally, and still is, dedicated to the Transfiguration. There are so many interesting particulars connected with this establishment that we shall take an early opportunity of furnishing an account of it, with an illustrative wood-cut. It is only necessary now to state, that a few years after this convent was built by the Emperor Justinian, one of the monks was informed in a dream that the corpse of St. Catherine, who had suffered martyrdom at Alexandria, had been transported by angels to the summit of the highest peak of the surrounding mountains. Whereupon the monks ascended the mountain in procession, and, having found the bones, brought them down and deposited them in the church. To commemorate such an event, it would seem that nothing less could be done than to call not only the convent but the mountain after St. Catherine.

Travellers put up at this convent, and after some repose there, generally think it their first duty to ascend to the summit of the Gebel Mousa (Sinai), the road to which begins to ascend immediately behind the walls of the convent. Regular steps have been cut all the way to the summit, but they have been so much injured by the winter torrents as to be now of little use. After a steep ascent of about three-quarters of an hour, there is a small plain, the entrance to which from below is through a stone gateway, which, in former times, was probably closed. A little beneath it, amidst the rocks, is a small church, dedicated to the Virgin Mary. On the plain itself is a larger building, of rude construction, bearing the name of St. Elias. It is now only frequented by the monks at certain seasons for the

* Those who wish to consider the question of the identity of Horeb and Sinai more in detail, will find the subject fully discussed in the volume on Arabia in the 'Modern Traveller,' by Mr. Josiah Conder.

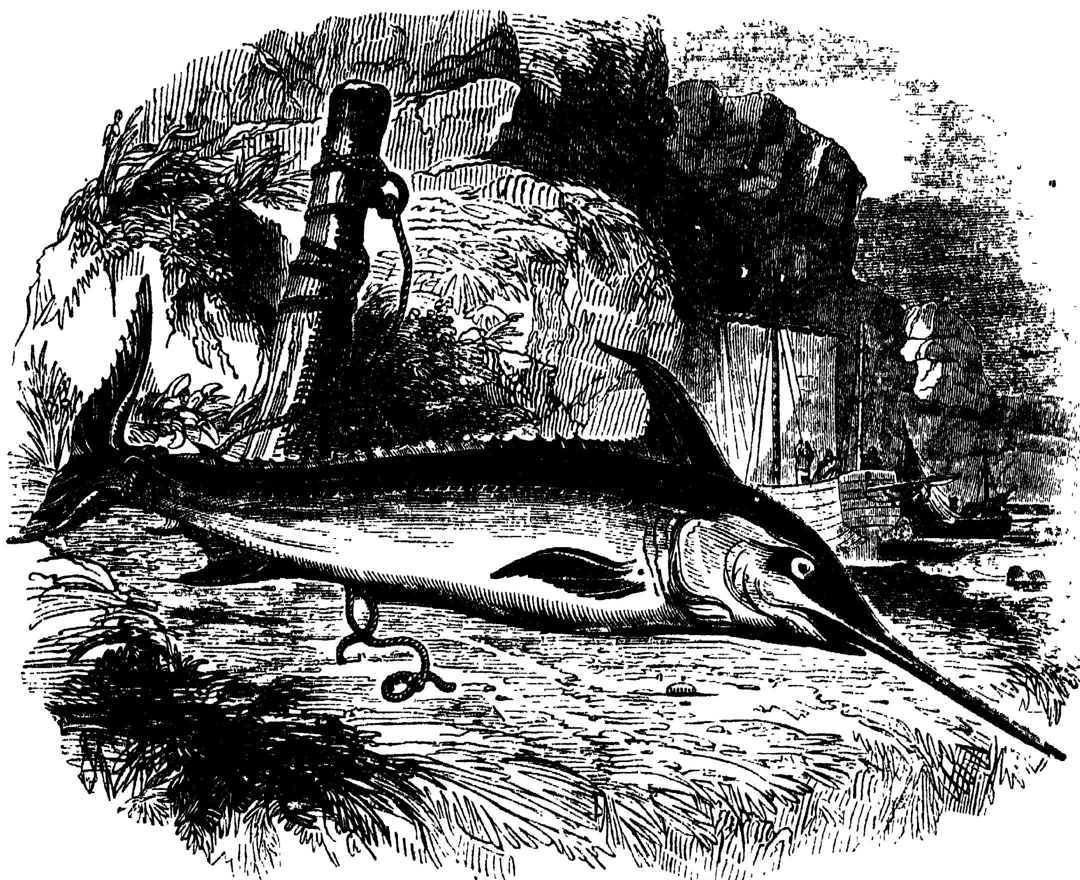
purpose of reading mass. The pilgrims usually halt on this spot, where a tall cypress-tree grows by the side of a stone tank that receives the winter rains. There were here, not many years ago, according to Laborde, two cypresses and three olive-trees, but they have all, save one cypress, perished. This is the part of the mountain where, in the belief of the Arabs, Moses stood in the presence of God. From this place a still steeper ascent than before conducts to the summit of the peak, the plain of which is about sixty paces in circumference. On the very top stands a church, which is the principal object of the ascent to Christian pilgrims. This church is built of granite, but has suffered much from the Arabs, who have exerted themselves to the utmost to destroy it. They believe that the Tables of the Law are concealed somewhere under this building, and have made excavations on every side in the hope of finding them. The Moslems themselves have a poor unadorned mosque, about thirty paces from the church, on a somewhat lower peak. They hold it in great veneration, and it is the place of *their* pilgrimage. The Bedouins often visit it, and slaughter sheep in honour of the Jewish lawgiver, to whom they make vows, and entreat his intercession on their behalf. These poor people are not without peculiar relics of their own on this mountain; for in the ascent from St. Elias to this summit a place is shown in the rock which somewhat resembles the print of the fore part of a foot, and which the Moslems firmly believe to have been made by the foot of Mohammed when he visited the mountain. *When* he did so, or that he ever did so, history does not state; but the fact of such a visit is firmly believed, not only by the Moslems but by the monks of Sinai, who on their part have a print of his hand to match with this print of his foot.

The mountain of St. Catherine is higher and more picturesque than that of Moses. Its principal relic would of course naturally be the site of the burning bush; but this is supposed to be enclosed within the church of the convent, which will be described in a future Number. The ascent is very difficult, but is rewarded by extensive views over the gulfs of Akaba and Suez, as the two branches of the Red Sea which embrace the peninsula are called. The island of Teraan, the village of Tor, and the high ground near Suez, are among the distant points which may be distinguished, to which M. Laborde adds the mountains of Africa. The top of Sinai is seen far below. All the rest is the same "sea of desolation," the same confusion of granite mountains and valleys destitute of verdure, which has already been noticed. This mountain, like the other, terminates in a sharp peak, consisting of an immense block of granite, the smooth surface of which is ascended with difficulty. On the summit itself there is only a small chapel, or shed, badly built with loose uncemented stones, and hardly high enough to allow a person to stand upright. It covers the spot from which the body of St Catherine is said to have been taken, although the floor is hard and solid rock.

Between Sinai and Horeb is the valley of El Ledja, in which is the small convent of El Erbayn, which is in good repair, and affords a convenient resting-place to travellers descending from the barren mountains above. This valley, though narrow and encumbered with blocks of stone rolled down from the mountains, is, upon the whole, very pleasant and agreeable. Our wood-cut exhibits part of it where the series of ascending steps commences. The gateway is said to have been erected on the spot where a supernatural iron cross opposed the further progress of a Jew, whom the miracle converted, and who was baptized in the ravine. This valley presents many objects of veneration, particularly the supposed rock which Moses struck for a supply of water. It lies quite insulated by the side of the path; and is about twelve feet in height, of an irregular shape, approaching to a cube. There are some apertures on its surface, through which the water is said to have burst out; they are for the most part ten or twelve inches long, two or three broad, and not more than from one to two inches deep, but a few may be as deep as four inches. Most of these fissures are evidently the work of art, but three or four of the twenty may be natural, and these probably first drew the attention of the monks to the stone. That it is really the rock of Meribah is sincerely believed by the present monks of Sinai, as well as by the Bedouins, who put grass into the fissures as offerings to the memory of Moses, in the same manner as they place grass upon the tombs of their saints, because grass is to them the most precious gift of nature, and that upon which their existence chiefly depends. They also bring hither their female camels, believing that by making the animal crouch down before the rock, while they recite some prayers and renew the grass in the fissures of the stone, their camels will become fertile, and yield milk in abundance. That this is not the real rock of Meribah, nor the vale the "valley of Raphidim" of the Bible, is clear from the fact, that here and elsewhere in the Upper Sinai perennial springs are so numerous as to supersede all occasion for a miraculous supply of water. Not far from this is shown a small and apparently natural excavation in a granite rock, resembling a chair, where it is said that Moses often sat. Near this is seen the petrified pot or kettle of Moses, being a circular projecting knob in a rock, resembling the lid of a tea-kettle in size and shape. The Arabs have often, in vain, endeavoured to break this rock, supposing it to conceal great treasures.

SWORD-FISH.

THE prolonged bony snout of the sword-fish, bearing some resemblance to a sword in its form and employment, has in all nations procured for the fish a name expressive of this analogy. The generic character common to the species is, that the head with the upper jaw terminates in a sword-shaped snout, that the mouth is without teeth, that the gill-membrane has eight rays, and that the body is roundish and without scales. The two principal species are,—the common sword-fish, and the broad-finned sword-fish. The common sword-fish (*xiphias gladius*) is considered as properly a native of the Mediterranean, though it sometimes strays into the Atlantic, and has been found along the coast of Europe as far as the Baltic, and along that of Africa as far as the Cape of Good Hope. It has a long and round body, largest near the head, and gradually tapering towards the tail. The head is rather flat, and the mouth wide, both jaws ending in a point, but the upper extending to a much greater length than the lower. This prolonged part is that which is usually called the sword: it is of a bony substance between three and four inches wide at the base, according to the proportions of the individual to which it belongs, and tapering to a sharp point. It is covered by a strong epidermis or scarf skin, rough to the touch like sand-paper. A deeply-impressed line or furrow runs down the middle of the upper part, and three similar furrows on the lower surface. It has only one fin on the back, which runs along the whole length of it. It is very high at the commencement, and sinking suddenly, becomes very shallow, and is continued to within a short distance of the tail, terminating in an elevated point. The vent-fin, which is placed nearly opposite this part beneath, is moderately small, and much wider at each extremity than in the middle. The gill-fins are rather small, and of a lanceolate shape. The tail is large and crescent-shaped, and on each



[Sword-Fish.]

side of the body, immediately before it, is a strong finny appendage. The general colour of the fish is brown, accompanied by a deep steel-blue cast on the head and upper parts, and inclining to silvery white on the sides and abdomen. It sometimes grows to a very large size, and as much as twenty feet in length. Pennant mentions one cast on shore near Laugharne, Caermarthenshire, the head of which alone weighed seventy-five pounds, and was furnished with a snout three feet long.

The sword-fish is very active in its movements and voracious in its appetite. It feeds on the smaller kinds of fish, which it kills by piercing them with its sword. It is said to be in particular a very great enemy to the tunny, which is described by Belon to be as much alarmed by its appearance as a sheep is at the sight of a wolf.

This fish is highly esteemed as an article of food by the Sicilians, who buy it up eagerly at any price at the commencement of the season, which lasts from May to August. They cut it into pieces, and salt it for future use. This process was in ancient times particularly performed at the town of Thuri in the bay of Tarentum, whence the fish was called *tomus thurianus*. A description of the ancient manner of taking this fish has been left us by Strabo, from which it appears that the process was the same as that now in use. A man mounts upon a cliff that overhangs the sea; and as soon as he discovers the fish, gives notice to a boat in attendance of the course it has taken. A man in the boat then mounts the mast, and on seeing the sword-fish directs the rowers towards it. As soon as they think themselves within reach, the man on the mast descends, and taking in his hand a harpoon, to which a cord is attached, strikes it into the fish, sometimes at a considerable distance. After being wearied with its agitations and attempts to escape, as well as exhausted by its wound, the fish is seized and drawn into the boat. The operation has considerable resemblance to the whale fishery on a small scale. The superstitious Sicilian fishermen have an unintelligible chant, which they regard as a most essential part of their apparatus. Brydone thinks it is Greek: but be that as it may, the fishermen are convinced of its efficacy as a charm, its operation being to attract and detain the fish near the boat. There are certainly some Italian words in it, although it is said that the men believe that the fish would dive into the water and be seen no more if it happened to hear a word of Italian.

The broad-finned sword-fish (*xiphias platypterus*) is of a thinner and more elegant form than the preceding, and is also distinguished by an extremely broad back fin, and by very long sharp-pointed thoracic appendages, which are entirely wanting in the other. The general colour of the fish is of a silvery-bluish white, except in the back, head, tail, and fins, which in the living animal are of a deep blue, fading into brown in the dried specimens. This fish is found in the Brazilian and East Indian seas, and also in the Northern seas, where and elsewhere it is a great enemy to whales, piercing them with its formidable weapon. A specimen of this fish occupies a very conspicuous situation at the British Museum in a distinct case, which also contains three specimens of detached swords. In the same room there is a small specimen of the common sword-fish.

The captain of an East Indiaman sent to Sir Joseph Banks an account of an astonishing but not singular instance of the strength of an individual of this broad-finned species: the bottom of his ship was pierced through by its sword in such a manner that it was completely imbedded, or driven through almost to its base,—the animal having been killed with the violence of

the shock. It is a fortunate circumstance that the fish is generally either killed in this manner or else perishes from being unable to withdraw its weapon, for could it effect this object, the vessel must inevitably founder in consequence of the leak; and indeed instances are recorded in which some vessels, probably old or of a slight description, have been greatly endangered, or even lost, in consequence of having been struck by a sword-fish. In the present instance, the wood, with the sword imbedded in it, was sawed out, and is now in the British Museum, where it forms one of the detached swords just mentioned.

Pliny mentions the power of the sword-fish to transfix vessels; and this was for a long time regarded as one of the exaggerated statements which are so common in the works of the ancient naturalists. Dr. Shaw thinks that Pliny, not being acquainted with the distinction of species, must have attributed to the common sword-fish what is true only of this species; but Dr. Shaw must have been in error, as the operation seems to be as often performed by the common fish as by that with the broad fin,—a fact which does not appear to have been ascertained when he wrote. Dr. Jerome V. C. Smith, in his 'Natural History of the Fishes of Massachusetts,' 1833, describes the common sword-fish as frequent off that coast, contrary to the ordinary opinion, which restricts it to the Mediterranean, and to the Atlantic coasts of Africa and Europe. That he means the common and not the broad-finned species is however evident, as he gives a figure and a detailed description. He then proceeds to relate instances of transfixion performed by this fish such as Dr. Shaw would restrict to the broad-finned species. Dr. Smith seems to have seen specimens of the fish which he describes, but he mentions that his practical information is derived from Mr. Dagget, an aged person, who has pursued the business of a pilot for half a century. Upon the whole, it seems evident that his information, the substance of which we proceed to give, applies to the common sword-fish, although it is to be regretted that he could not acquire distinct information concerning the smaller sword-fish of which he had heard mariners speak, and which he at first supposed might be the *makaira* (to be presently noticed), but which in the end he concluded must be the young of the common fish. There is no doubt, however, that, although, on the authority of Dr. Smith and *his* authorities, we are bound to consider the ensuing facts as applying to the common species, the whole is equally true of the broad-finned one. There is in fact little, if any, known difference in their habits.

Our author observes, that the fish "is evidently possessed of a highly irritable disposition, and therefore appears to be constantly involved in perilous and fearful difficulties. It is voracious, and yet without teeth; and though it seems to be the knight-errant of the deep by meddling with the affairs of others, in which it has no personal interest, it also appears, at other times, to be at open war with whatever moves in the liquid element.

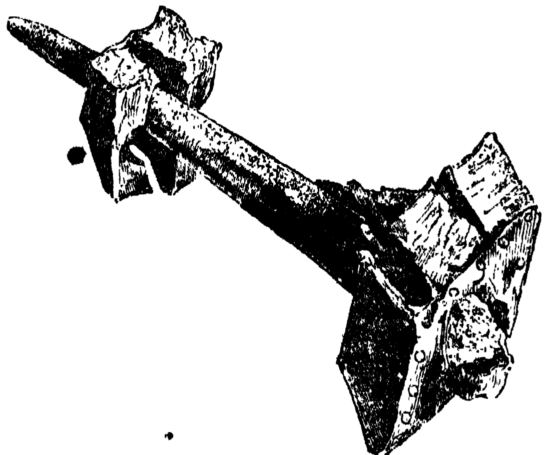
"Whales of prodigious magnitude, though truly peaceably disposed, if by chance they get within the sphere of its vision, are butchered without mercy. Whenever the sword-fish fails of accomplishing the death of this great animal, it is oftener because the sword is not long enough to penetrate through the thick sheet of blubber to the vitals than from any want of exertion on the part of the warlike assailant."

Notwithstanding this view of its character, it seems to us that the sword-fish aims its formidable thrusts at vessels, not so much from a disposition to attack everything that falls in its way as under the impression that the said vessels are whales, or other great fish: and may not the fact, that vessels are rarely if ever so attacked in the Mediterranean, be in a great degree owing to this,—that there are not in that sea any fish so large that a sword-fish of ordinary penetration could mistake a ship for them. We are liable to great misapprehension in estimating the character of an animal without a careful reference to local circumstances.

Dr. Smith mentions the sword imbedded in wood at the British Museum, and gives some additional instances, which we quote:—

"On a calm sunny day during the last summer, as a pilot was leisurely rowing his little skiff over the glossy bosom of the gently-swelling waves, he was suddenly roused from his seat by the plunge of a sword-fish, thrusting his long spear more than three feet up through the bottom of his slender bark, when the pilot, with that presence of mind for which the whole fraternity are distinguished, broke it off on a level with the floor, by the but of an oar, before the submarine assassin had time to withdraw his fearfully offensive weapon.

"Within five or six years, a Boston ship, on a return from a long voyage, being over-hauled for repairs, presented the stump of a sword-fish's blade, the point of which was driven a considerable way into the hard oak. In repairing his Britannic Majesty's ship Leopard, in 1725, on her return from the coast of Guinea, a sword of this fish was found to have gone through the sheathing one inch, next through a three-inch plank, and beyond that four inches and a half into the firm timber. It was the opinion of mechanics that it would require nine strokes of a hammer, weighing twenty-five pounds, to drive an iron bolt of similar size and form to the same depth in the same hull; yet this was accomplished by a single thrust."



[Tusk or Sword of a Sword fish, pierced through the outer and inner copper-covered timbers of a ship.]

That the vessel came from the coast of Guinea is certainly one circumstance in favour of the claim of the common fish to the credit of this feat.

"The Hon. Josiah Robbins," proceeds Dr. Smith, "of Plymouth (United States), related to us the following extraordinary fact. On the return of the ship Fortune, of Plymouth, from a whaling voyage in the Pacific, some time in the year 1826 or 1827, he does not recollect which, the stump of a sword-blade was discovered on the outside of the hull, which, on examination, was found to have penetrated through the copper sheathing, an inch board sheathing, a three inch plank of hard wood, the solid white oak timber of the ship, twelve inches thick, through another two and a half inch hard oak ceiling plank, and lastly perforated the head of an oil cask, where it still remained immoveably fixed, so that not a single drop of oil had escaped."

Our second wood-cut will serve to illustrate the above anecdotes, being copied from a specimen in the

Adelaide Gallery of the weapon of a sword-fish thus run through the outer and inner timbers of a copper-sheathed vessel. Such palpable evidence seems almost needful to render credible the accounts we have given of the astonishing strength of this formidable creature.

Dr. Smith says that the American ship carpenters do not view the circumstance of finding points and portions of the swords in the hulls of vessels as a rare occurrence, particularly in those that come from South America. "We have," he continues, "many specimens of the swords from various parts of the world, but only two possess the skeleton of the head, which renders them quite valuable to a cabinet. Seamen who bring them from foreign countries as curiosities, are very apt to ruin them in two ways; first, by sawing them off too far from the jaw, and secondly, by scraping the blades smooth with knives and glass by way of improving upon nature; hence a majority of the specimens in museums are nearly ruined."

Of the "short-snouted sword-fish" (*xiphias makaira*) and the "round-snouted sword-fish," very little is known. The former is described by Lacepède, from a single specimen thrown on shore at Rochelle. It resembles generally the common sword-fish, but differs in having a much shorter sword, and in being furnished with two bony tubercles on each side of the tail. The other is described by the same author from a head preserved in the Paris Museum, which differs from the snout of the common sword-fish in being convex above instead of flattish, and in having the sides perfectly rounded or incapable of cutting: it is also nearly cylindrical in shape, instead of being depressed as in the common sword-fish; and it has three longitudinal furrows above, and one below; whereas in the other there are three below and one only above.

DEALINGS IN A BAZAAR.

[From a Correspondent.]

[The paper which I now send you is properly a sequel to that which you lately printed under the title of 'A Day at Kermanshah.' This might be called 'A Second Day at Kermanshah;' but as it chiefly relates to my observations and proceedings in the bazaar of that town, I have chosen to give it another title.]

THE bazaar of Kermanshah does not need any particular description, as it does not differ in general arrangement from the bazaars of other towns in Persia, and generally they are not materially different from those of Turkey. The lodges occupied by the shopkeepers seemed, however, rather more roomy than in the bazaar at Bagdad, notwithstanding the greater extent of the latter. I saw, also, that the goods on sale were displayed to as much advantage and with as much taste as perhaps could anywhere be exhibited with the same materials, and certainly with more than I had ever witnessed in Turkey. There was an obvious intention to render the display of wares as attractive as possible to those who passed by. This pleased me, as every thing pleases a stranger in a foreign land which helps to remind him, however remotely, of any usage or feeling which exists also in his own country. It seems perfectly natural that a tradesman should in every proper way endeavour to draw custom to his shop; but this is by no means a general rule. A shopkeeper in a Turkish bazaar, for instance, seems not to care at all whether you come to his shop or go to another; and he hands you for examination the articles you require in a manner so listless and indifferent as to convey the impression that he considers he does you a high favour in so far attending to your wishes. I was therefore much pleased to find the behaviour of the shopkeepers in this bazaar quite in accordance with the impression which the studiously-attractive display of their wares conveyed. Some of the men who noticed that I was observing their shops, invited me to sit down on the bench, and, with great alacrity, bestirred themselves in producing for my inspection or in directing my attention to such articles as they imagined best calculated to attract my liking; nor am I aware that, in any instance, the least dissatisfaction was exhibited if I made no purchase after all the trouble they had taken. Even such men as were engaged in operative labours at the same time that they attended to their shops, and who seemed very busily occupied, did not appear in any degree reluctant to suspend their labours for the purpose of attending to me. Not a few offered the pipes from which they were smoking; and some, who happened to be taking their lunch at noon, invited me with great good will to partake. It generally consisted of bread and cheese, with onions, melons, or fruits.

I think I may take this opportunity of saying a word or two about the objections which Persians and other Moslems entertain to eating with Christians, especially as the matter does not seem to be in general clearly understood. From all I could learn by information or personal experience, their feeling is not nearly so offensive to us as we understand it to be. They have certain formalities connected with the preparation of their food, the omission of which renders the food and those who eat of it impure. Hence they do not generally object to allow a Christian to partake with them of their own food, but they cannot bear that he should prepare his own food in their vessels, and still less do they like to partake of food that he has prepared; and although certainly they think he has contracted personal impurity by the use of food unlawfully prepared, I am persuaded that the objection to eat of his fare is not so much an objection to him personally as to the food itself, or rather to its mode of preparation. When a Christian finds that a Moslem declines to taste his fowl or his mutton, even if assured that our mode of killing the fowl or sheep is the same as his own, we are apt to consider that the objection can be no other than personal to ourselves; but the fact is, that it is not merely the mode of killing which renders the meat lawful to them, but the act must be accompanied by a prayer, without which the meat is a forbidden thing, and therefore it is that they can only eat meat when the animal has been killed—"sacrificed" they call it—by one of their own persuasion.

It may be asked how one in my situation could manage the business of traffic with persons with whom I could hold no verbal communication. I found little difficulty in the matter. Having real business to transact, I at once declared my deafness by placing my fingers on my ears and shaking my head, and then proceeded to business, indicating by signs the article I wanted. This was easy, as I generally saw some such article in the shop; and if the specimens exposed did not please me, had only to express a wish to see others. In asking the price, I asked them to show me a quantity of coin equal to that which they expected me to give, and then on my part I showed them the sum I was willing to pay; for in dealing with them, and perhaps with Orientals generally, it is nearly always necessary to make a large abatement on the sum which is demanded. It will be seen presently, however, that I had not always the conscience or the courage to attempt to cut down the price so largely as I might fairly have done.

One of the articles I desired to purchase was a pair of gloves. After several unsuccessful inquiries, one man to whom I applied sent a youth to ransack the bazaar for me, but he returned without having accomplished his object. It was easy indeed to have obtained a single glove, for here, as in Turkey, luxury has not proceeded beyond providing a glove for the right hand, nor is that often used except on a journey

in cold weather. I accordingly found a variety of right-hand gloves, both of worsted and of leather: the latter sometimes reaching to the middle of the fore-arm, not unlike the gloves of our dragoons. They often had fingers, in which they differ from those of Turkey, where I do not think I ever saw fingered gloves. After having resided a good while in the East, the want of gloves did not strike me as a deficiency in Oriental costume; but when I came to Constantinople, naked hands seemed to assort but badly with the European dress,—the frock-coats or tight jackets,—which prevailed among the military and persons in the employ of government. This particularly struck me when I saw the sultan himself riding in state, with a large cloak over an European dress, managing the reins of his horse with an ungloved hand. We must be content however with their adopting our costume piecemeal. They have got the coat and trousers; hats they still abhor,—gloves they have none,—no part of the shirt appears,—and boots they dispense with when they can. To return to Kermanshah,—as I could not get *a pair* of gloves, I did not purchase any. My fellow-traveller had for his own use a good strong pair brought from England: and as we were leaving the place the next day, a Syud, to whom we were personally known, seemed struck at such superfluity as a glove on each hand, and, observing that I had none, recommended him to give one of them to me.

Having observed the preceding day that there were shoes in the bazaar which seemed much more convenient for travelling than the red pumps with peaked toes which I had worn since leaving Bagdad, I was intent on purchasing a pair, and having made the acquisition for three shillings where four was asked, I was very well pleased with my bargain. The shoes had high iron-bound heels, were without peaked toes, made with black leather, and were the only shoes I had seen in the East made with welts, on the same principle as our own. They were clumsily done to be sure, and the leather badly dressed; but they were things in which one might walk firmly, and I was therefore well satisfied with them. As I proceeded homeward with the shoes under my arm, several shop-keepers called me aside to ask the price I had given for them. When I told them, they laughed heartily and held up two fingers to signify that two shillings, not three, was the price I ought to have given. Most of them, when I said "three," looked down at my feet, and observing that I wore Turkish slippers, laughed again, and nodded to one another as much as to say, "No wonder that a fellow who comes from Turkey should be outwitted by a clever Persian." I was at last so thoroughly annoyed at the continual solicitation of idle shop-keepers to know the history of my shoes, and so tired of joining in the laugh against myself, that I refused to turn aside when invited, and although some sent men and boys after me to ask me to return and exhibit my shoes, I hastened to the khan, and arrived there perfectly out of humour with my marketing, and, at the moment, not in the best of humours with the Persian shop-keepers.

Notwithstanding this failure I volunteered towards evening to go forth into the bazaar again and purchase materials for supper. My companion, who entertained an impression that I managed with the shop-keepers more readily by signs than he could with his imperfect Turkish, willingly acquiesced in my proposal. In cases of this sort my mode of dealing was somewhat different from that which I have already described. As a very small sum goes a great way in the purchase of provisions, I entered into no discussions about prices; but showing in my hand such a sum as I thought adequate to procure the the quantity I required, I pointed to the article and indicated that I wanted so much as the money in my hand would purchase. I had not, however, calculated on finding provisions so extraordinary cheap as they were at Kermanshah, and was not by any means prepared for the thumping quantities which were returned me for the small sums I offered. In the first instance I paused at a fruiterer's, and pointing to a heap of remarkably fine grapes, desired to have to the amount of some coppers, of about the value of twopence, which I held in my open hand. The man immediately put two great rough stones into one of the scales, and piled up in the other such a vast heap of fruit, that I was perfectly astonished, and not well knowing how to dispose of it, threw back a large part of it to the heap from which it was taken: but, as I paid for the full quantity, this act did not appear to exalt me very much in the esteem of the persons who witnessed the transaction.

My next pause was at a kaboob-shop, which seemed to be in excellent repute, as three men were in constant employment in supplying the demand at that time of the day. Kaboob is a term which, although not restricted to that form of chopped meat, in the present instance signified mutton minced up like sausage-meat, and highly seasoned with salt, pepper, onions, and other spices, together with some sour vegetable, which gave a pleasant acidity to the whole composition. A small quantity of this is a grateful repast, and is highly relished both by Turks and Persians, forming a standing resource in the absence of a regularly-prepared meal, and frequently a principal ingredient in such a meal. Though rather too highly flavoured for an English palate, we enjoyed it very much, and were glad when we could obtain it, which was only in considerable towns. It seems a somewhat delicate operation to dress this composition without skins or anything else to confine it: but it is performed by the cooks with the greatest dexterity and ease. The minced mixture is daubed upon a flat iron-skewer, or miniature spit, until it assumes the form of an oblong cake about half an inch thick, and six or seven inches long by two inches broad. In this form as many of them as the customer requires are suspended over a clear charcoal fire, and in a few minutes assume a brown and crisped appearance. The skewer is then extracted, and the purchaser receives his kaboobs wrapped up in a cake of that thin flexible bread which has been described in the paper 'Bread in the East,' in No. 113 of the 'Penny Magazine.' Two or three of these kaboobs are, with a proper proportion of bread, quite a sufficient meal for a person of moderate appetite. For a sum equal to about three halfpence I had four of the oblong pieces I have described, and was charged one halfpenny more for the bread in which they were wrapped. Not thinking this bread sufficient, I purchased an ample supply at another shop for a penny. Thus, for less than sixpence two persons obtained a very pleasant and sufficient meal, consisting of a most savoury preparation of meat, with plenty of bread, and a quantity of rich fruit by way of dessert.

My success in this marketing was an exceedingly good set-off against the failure in the matter of my shoes. With this I may as well conclude; for soon after enjoying the supper I had thus provided, we lay down to rest, and were roused early the next morning to resume our journey.

SOCIAL HABITS AT GLASGOW IN THE LAST CENTURY.

On this subject some curious particulars are given in Dr. Cleland's 'Statistical Account of Glasgow,' as taken from the 'Scrap Book' of his friend Mr. David Bannatyne. The following particulars, derived from this part of the elaborate work we have mentioned, will probably be considered as an interesting addition

to the information concerning Glasgow, which is contained in some recent Numbers of the 'Penny Magazine.'

At the commencement of the eighteenth century, and during the greater part of the first half of it, the habits and style of life of the inhabitants of Glasgow were of a very moderate and frugal cast. The dwellings of the highest class of citizens generally contained only one public room, a dining-room, and even that was used only when they had company, the family at other times usually eating in a bed-room. After dinner the husband went to his place of business, and in the evening to a club in a public-house, where with little expense he enjoyed himself till nine o'clock, at which hour the party uniformly broke up, and the husbands went home to their families.

The wife gave tea at home in her own bed-room, receiving there the visits of her female acquaintance. The gentlemen seldom made their appearance at these parties. The race of burghers, living in this manner, had from time to time connected themselves by marriage with the first families in the country. The people were in general religious, and scrupulously strict in their observance of the Sunday. There were families who did not sweep or dust the house, did not make the beds, or allow any food to be dressed on a Sunday. There were some who only opened so much of their shutters as enabled the inmates to move up and down, or an individual to sit at the opening to read. The magistrates employed persons, called "compurgators," to perambulate the city on the Saturday nights; and when, at the approach of twelve o'clock, these inquisitors happened to hear any noisy conviviality going on, even in a private dwelling-house, they entered it and dismissed the company. These "compurgators" also made their perambulations on Sunday during divine service, and ordered home every person they met abroad, except in cases of urgent necessity, or, on his refusal, took him into custody. But having, about the middle of the century, taken into custody a spirited gentleman who was walking on Sunday on the Green, he prosecuted the magistrates for this exercise of authority, and as he succeeded in his suit, the attempt to enforce the observance of the day in this manner was discontinued.

The wealth introduced by the opening of the British colonies to the enterprise of the Scotch at the Union, gradually led to changes in the habits of the citizens. About the year 1735 several individuals built houses to be occupied solely by themselves, instead of dwelling, as formerly, on a floor, the access to which was by a common stair. This change, however, made no very rapid progress, and, up to the year 1760, very few of these single houses had been built, the greater part of the more wealthy inhabitants continuing to a much later period to occupy floors, in very many cases containing only one room. After the year 1740, the intercourse of society was by evening parties, never exceeding twelve or fourteen persons, invited to tea and supper. They met at four, and after tea played cards till nine o'clock, when they supped. The gentlemen attended these parties, but did not go away with the ladies after supper, but continued to sit with the landlord, drinking punch till a very late hour. The gentlemen frequently had dinner-parties in their own houses, but it was not until a much later period that the business of visiting was attempted to be carried on by dinner-parties. The guests were generally invited by the entertainer upon 'Change, from which they accompanied him, at the same time sending word to their own houses that they were not to dine at home. These dinner-parties usually terminated in hard drinking; and gentlemen in a state of intoxication were to be met with at most evening parties and in all public places. Profane swearing was then considered a gentlemanly accomplishment; and dissipation at entertainments was called good fellowship and friendship, and he who did not send his guests drunk from his house was considered unworthy to entertain genteel company. The dinner hour was two o'clock about the year 1770; soon after it came to three o'clock; and gradually grew later, until it had reached six o'clock in 1828. The first instance of a dinner of two courses in Glasgow was about the year 1786; and the lady who made this change in the economy of the table justified herself against the charge of extravagance by saying that she had put no more dishes on her table than before, but had merely divided her dinner instead of introducing her additional dishes in removes.

The above is the substance of the information given by Dr. Cleland from his own and Mr. Bannatyne's sources, concerning the state of society in the last century. The doctor completes the picture by adding the following particulars concerning the manner in which the intercourse of social life is now conducted:—"Families who were formerly content to live in the flat of a house in the Old, have now princely self-contained houses in the New Town. Entertainments are now given more frequently, and the mode of giving them is materially changed; persons who formerly gave supper-parties and a bowl of punch, are now in the way of giving sumptuous dinners, entertaining with the choicest wines, and finishing with cold punch, for which Glasgow is so celebrated. The value of the table-service, and the style of furniture in the houses of many of the Glasgow merchants, are inferior to none in the land. In drinking there is a mighty improvement: formerly the guests had to drink in quantity and quality as presented by their host; now every person drinks what he pleases, and how he pleases, after which he retires to the drawing-room, and drunkenness and dissipation at dinner-parties are happily unknown. Profane swearing is now considered highly reprehensible, so much so, that swearing in good company is never heard. The working-classes are better lodged, clothed and fed than formerly; and since the formation of the water-companies, they are more cleanly in their apparel and healthy in their persons."

In illustration of the last remark, we may mention, as we find in another part of Dr. Cleland's work, that, previously to the establishment of the existing water-companies, for supplying the city with water filtered from the Clyde, the inhabitants were but indifferently supplied from twenty-nine public and a few private wells, so that great loss of time was often incurred in procuring an adequate supply of water, and from some of the wells it was often of indifferent quality when obtained. Matters are very differently managed now. In 1830 there were 38,237 renters of water in the town and suburbs. Persons of property now have water conveyed by pipes to every part of their houses, while the poor have it brought to their doors on terms more advantageous to them than when they had it without charge, taking into account the value of the time which they then lost. Before this system came into operation, all classes were obliged to send their clothes to be washed at the public washing-house in the Green, the well water being too scanty and hard for the purpose. The clothes of the poor, and of many others who formerly used the public washing-house, are now washed at home, in consequence of which the rent of the washing-house has decreased from 600*l.* a year to 177*l.*

. The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

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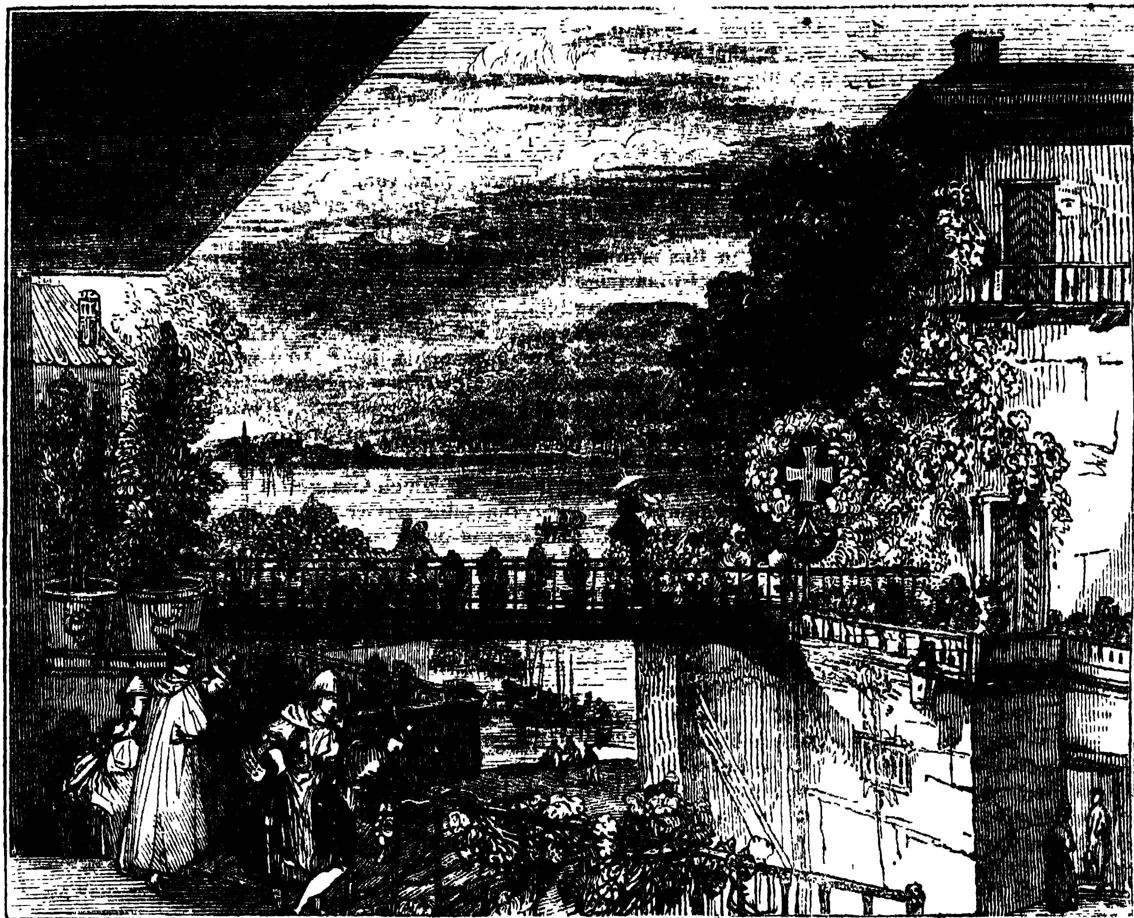
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THE LAGO MAGGIORE.



[View on the Lago Maggiore, from the Inn, Baveno.]

The Lago Maggiore is the largest of all those beautiful lakes that lie at the foot of the Alps, on the Italian side. It is about forty-five English miles long, but its breadth is small in comparison to its length, varying from two to five miles, while in the lower part of its course, below the towns of Arona and Sesto, it becomes so narrow as to look rather like a stately river than a lake. Its greatest breadth is at Baveno, where, turning the promontory of Intra and Palanza, it forms a deep bold bay. The distance from Baveno on the western side to Laveno, on the eastern shore, is not much short of seven English miles, and at either of these points it presents a magnificent sheet of water, and the most picturesque combination of islands, hills, and mountains. It is fortunate that these two pleasant towns, which are built on the very margin of the lake, and present the finest views of it, lie immediately on the high road of travellers. In going southward from Switzerland, and crossing the Alps by the grand Simplon road, the tourist descends suddenly on Duomo d'Ossola, at the very foot of the Alps, and a few hours afterwards he reaches the posting town of Baveno, where the first burst of the scene is like enchantment. In coming northward from Milan, by Varese, with its little miniature lake that lies sleeping among vineyards, a fine posting road leads to Laveno, where it stops, and thence, after admiring the reverse of the beautiful picture as seen from the opposite shore, he can embark, cross the lake to the islands and Baveno, and then continue his route by the Simplon. Year after year hundreds of English travellers make their first acquaintance with the Lago Maggiore at one of these two points.

The views from the windows and terraces of the inn at Baveno, which commands the whole of the inlet or bay we have mentioned, and in which the Borromean islands are grouped, are eminently beautiful; but to obtain the true point of sight, if he does not intend to cross over to Laveno, the tourist should take a boat and row a little beyond the islands to the middle of the lake. There the bosom of the lake, the gentle shores, and the green hills dotted with towns, villages, and country seats, and the granite mountains of Baveno and Montorfano disclose themselves with the happiest effect; on one side (to the south) the mountains decline into bosomy hills, which are gradually lost in the rich and boundless plain of Lombardy; while on the other hand (to the north) the eternal-looking Alps, with their coronets of dazzling snow, tower over lake, hills, and mountains, and dash sublimity into a picture

which otherwise would only be remarkable for its smiling, placid loveliness. From the particular point we speak of the whole panorama is almost matchless. The small fairy-like islands, brought under the lee of your boat, the white sails glancing across the bay, and the romantic little town and pleasant inn of Baveno, are there all beautiful accessories to the picture, and are seen nowhere else to such advantage.

The capital attraction to most travellers is the Isola Bella, or Beautiful Island, one of the Borromean group near to Baveno. We think this particular island, which is thoroughly artificial, rather curious than picturesque or beautiful; but it tells well at a distance with its lofty palace, its terraces, and formal groves and gardens, and contrasts in a striking manner with the simplicity or wild nature of the other islands, while it calls for that tribute always due to the art and industry of man when they have overcome great natural difficulties. *Le Isole Borromee*, as they are called, after the name of the noble Lombard family to which they have belonged for several centuries, are four in number—the Isola di San Giovanni, or, as it is frequently called, the Isolino (small island), the Isola Madre (mother island), which stands in the midst of the group, the Isola Bella, and the Isola Superiore, which is oftener called L'Isola de' Pescatori, or Fishermen's Island. This last island, with its humble homesteads and church spire, always struck us as being the prettiest of the group, and it is the one represented in our engraving, which is taken from an original drawing, wherein the artist set down without change or composition a scene he saw from the pleasant inn at Baveno.

This little island, which is entirely inhabited by fishermen, who pick up a tolerable livelihood on the lake, and the many rivers, well stocked with trout and other delicious fish, that fall into the lake, is one of the most thickly-peopled spots on earth. Scarcely more than half a mile in circumference, it contains a fixed population of 220 or 230 souls. It should be mentioned, however, that sundry of these islanders possess a vineyard, or some little bit of land on *terra firma*, whence, of course, in exchange for their fish, and the labour they have to offer as boatmen, &c., they draw nearly all their provisions. As it is the only one of the islands that has a church, (though there is a magnificent private chapel on the Isola Bella,) the pescatori are very proud of this distinction; and it is a pleasant sight, on a Sunday or Saint's day, to see the people from the other islands going across the lake in their boats to hear mass in that humble place of worship. The church was built in the seventeenth century by the Cardinal Frederic Borromeo, who first established a curate there at his own expense. On approaching this island you see a narrow strand covered with boats, oars, fishing-nets, and the like, strewed in picturesque confusion; but we are sorry to say that on landing and entering the village a good deal of the romance and picturesqueness is put to flight by less pleasant sights and very unpleasant smells. The houses are low, dark, and smoky; the streets narrow and festooned with nets retaining the strong scent of the finny prey; the men and the women, too, who take their turn at the oar, are sun-burnt, and shrivelled by their constant dabbling in the water, and they all smell of fish. All kinds of fresh-water fish meet your eye whichever way you turn it, and at certain seasons these are apt to be not over sweet: in short, there is nothing on the Isola de' Pescatori, not even the trees and bushes, " but hath suffered a *lake* change," and hath a fishy smell. The people, however, are by no means so poor as they look —a circumstance that renders their dirt and slovenliness the more inexcusable. We hope they may improve in these respects, but in the meanwhile their island will be best seen at a distance. Some years have elapsed since then, but we have now before us the murky hovel of an hostelry, into which we were shown when we wanted some refreshment; and we perfectly well remember how the flavour of some of the finest red-spotted trout ever caught in the Lago Maggiore, or anywhere else, were spoilt by the odours of the place and the smoke that almost blinded us.

The landing at Isola Bella is certainly a very different affair, for although there are from fifteen to twenty common houses, the island seems covered all over by the Borromeo Palace, its gardens, hanging-terraces, and accessories. There everything is clean, sweet, and in perfect order; and yet to our eye, much as we admire it, the whole is somewhat too formal and stiff, and looks more like a stately stage-decoration than what we should conceive of those enchanted islands to which it has been the fashion to compare it. For more than a hundred years, however, the writers of books of travels have been accustomed to consider it as a realization of the fabled island of Calypso, or the isle of Alcina, and among these writers are a few men of good taste, like the late Henry Mathews, who says the Isola Bella " might serve as a model for a description of the island of Calypso." Our great historian Bishop Burnet visited it, described it with an excess of pleasure, and always spoke of it with transport. Keysler, an old-fashioned German traveller, who went to it about the year 1735, painted it in words that are meant to be equally flattering, but he made use of one expression which both sounds ludicrously, and yet in part conveys to our mind a correct though not a very poetical notion of the place. The honest German said that the Isola Bella could be " likened unto nothing but a pyramid of sweetmeats, ornamented with green festoons and flowers." The island, though it attains no great elevation, really rises in the pyramidal fashion. Ten artificial terraces, covered with gardens, groves, and shrubberies, and slightly retiring in a diagonal line, rise one above the other in regular gradation. These terraces are bordered with marble flower-pots, and statues of gods, goddesses, men, and horses, glaring out from a green background of trees. The orange, the lemon tree, with its bright green leaves, the citron, the cedar, the dark funereal cypress, and the high ever-verdant laurel, all grow there, and where not exposed to the cutting northern winds that descend from the snowy Alps, they grow luxuriantly: but yet they seem all to have caught somewhat of the formality incident to such a place. Among the fine large laurels, which in Italy are trees and not mere shrubs, there is one to which a local tradition is attached that has interested many visitors. They say that a few days before his splendid victory at Marengo, Napoleon Buonaparte cut out with a pen-knife on the bark of that laurel the word Battaglia (Battle). When we were there an old gardener told us the story, and said we might easily make out the first syllable of the word, BAT —but we looked, and could not, which might be owing to our want of faith. If the word were ever there, it was more probably cut by some silly visitor to record his name, Battaglia being by no means an uncommon name in Italy.

In the midst of this singular island stands the Palace of the Borromeo family, who only inhabit it during a very short portion of the year. Though certainly no model of architecture, it has an air of elegance and even grandeur. It perhaps even improves in the interior, where, mixed up with much magnificence, there are several truly delightful apartments that offer that union of comfort and elegance which is always so dear to an Englishman.

Statues and paintings in considerable numbers are distributed over the house. Among the first we remember nothing of supreme excellence, but in the

collection of pictures there are some fine specimens of Procaccini, and of that rarer old master Schidoni. The lower part of the palace made the greatest impression on us. Supported by arches, it overhangs the lake on one side; several apartments in it are arranged in the style of marine grottoes; the walls, the pillars, the floors, and roofs, are all inlaid with shells, fragments of marble, and vari-coloured stones and pebbles. There are a few seats and tables covered in the same manner—there are also a few cool-looking marble statues: everything, in short, is fresh, silent, (and it is a positive fact that in a very hot climate there is coolness in silence,) and in perfect keeping. The beauty of the views and the coolness of the atmosphere united, render this portion of the palace a most delicious summer retreat. In spite of their artificiality and trimness, some of the groves and bowers are pleasant places to rest and muse in, particularly those under which the waters of the lake flow and murmur. A large portion both of the garden and the palace is thus upheld in air over the lake by means of stone walls and arches, of which the foundations are laid on rocks beneath the usual surface of the water.

We learn from an old Lombard writer, that originally the Isola Bella was nothing but a bare rock cut through and through, in some directions, by the constant lashing and biting of the waves, which are occasionally sufficiently stormy. About the year 1670 the wealthy Count Vitaliano Borromeo conceived the idea of converting this rock into what he considered a terrestrial paradise. He began by quarrying a portion of the rock to get materials to build with, after which he erected pilasters, arches, walls, and buttresses, and that part of the work being done, he, at an immense expense, caused earth to be brought in boats from the mainland, and had it laid down over all, to form a sufficiently deep, compact, and productive soil. Tree-planting, gardening, and house-building followed, and in process of time the island became what we now see it. To those who had seen it before, and who came upon it suddenly after its metamorphosis, it may indeed have appeared an enchanted island. But even now there is something magical about it. The upper terrace commands varied and enchanting views. To the south, on the water's edge, is the little white town of Stresa, with the villa Bolongari; above Stresa are vineyards and cottages, and again, above these, green hill-sides and pasture land spotted with fawn or cream-coloured cattle. To the north-west are the forked summits of the Simplon, on which the snow never melts; to the north and north-east those two other magnificent Alps, Monte Rosso and Monte Simmolo. To the east the lake spreads far away, to where it washes the feet of the gentle hills about Laveno and Cerro; and to the west is the bay, with the town of Baveno, and the granite mounts we have already mentioned.

In an early Number we shall return to the Lago Maggiore, and describe the rest of the islands, as well as some other places on the banks of the lake.

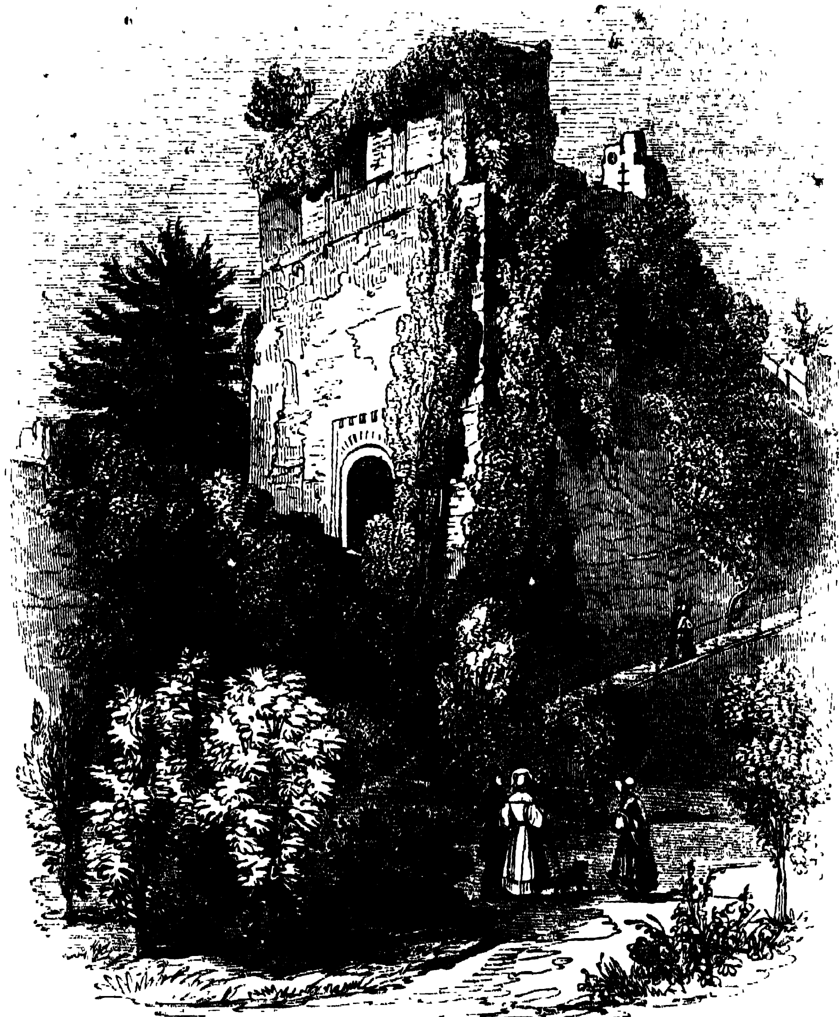
POPULAR PRINTS.

Wood-cutting is an art which employs whole villages in Russia; but it is of the coarsest and most uncouth description, with respect both to the skill of the artist and the subjects upon which he employs it. The prints produced, which are religious subjects, historical events, or fables, legends, and humorous conceits, find a ready sale throughout the emperor's dominions. Among others, we have seen a representation of Mount Sinai at the moment of the delivering of the tables to Moses, but so full of matter, that we must not attempt to describe it. In fact, there is scarcely a single occurrence or character of importance in the Old Testament which is not attempted; and, to crown the whole, we are favoured with a sun-beam, striking straight through Mount Sinai, and darting upon St. Catherine's tomb. A genealogical tree of Christ, from Abraham to Joseph, gives us the portraits of forty-two of Christ's ancestors; and in the print of the 'Last Judgment' is an immense serpent, each of the parts of whose tail is appropriated to some one or other of all the vices of human nature; while the birds and fishes, in accordance with Holy Writ, are disgorging themselves of the flesh of man. A 'Catalogue Raisonné,' and the portraiture of forty-five saints, are accompanied by a circumstantial enumeration of the number of drops of blood which the Redeemer lost for mankind's sake. In a large circular 'Map of the World,' Asia is called the 'quarter of sun-rise,' and it ends with the Happy Islands of Macaria, next to Paradise. Africa is termed 'Noon,' and, in one direction, extends from Egypt to the White Sea and Atlantic; Europe retains its proper name, and is assigned as the portion of Noah's eldest son Japheth; while the remaining quarter, America, 'not long ago' discovered by Spanish and French 'Niemzy,' or dumb persons, as the Russian designates all foreigners, is represented as the largest of all islands, and inhabited by a people who know no written characters, have no religion, live 500 years and upwards, eat baked meat and nutmegs, and are subjects to the French and Spanish monarchs. The island of Malta is set down as full of teachers and wise men, herbs, and vegetables, and the island of Minorca as inhabited by sages; but the city of Moscow, with its walls and towers, steeples and churches, occupies a larger share of the print than either Asia or America. Petersburg, however, seems to have been out of the designer's good graces, for its site is designated by only seven miserable stunted firs and beeches. After all, this map is 'cunningly' devised with reference to the traditions current among an ignorant and superstitious race; any attempt to break in upon them would be but 'cutting blocks with a razor.'—*From the Quarterly Journal of Education*, No. XX.

CHARACTER OF SIR JOHN MOORE.

* * * * Thus ended [at the battle of Corunna] the career of Sir John Moore, a man whose uncommon capacity was sustained by the purest virtue, and governed by a disinterested patriotism more in keeping with the primitive than the luxurious age of a great nation. His tall graceful person, his dark searching eyes, strongly-defined forehead, and singularly-expressive mouth, indicated a noble disposition and a refined understanding. The lofty sentiments of honour habitual to his mind, adorned by a subtle playful wit, gave him in conversation an ascendancy that he could well preserve by the decisive vigour of his actions. He maintained the right with a vehemence bordering upon fierceness, and every important transaction in which he was engaged increased his reputation for talent, and confirmed his character as a stern enemy to vice, a steadfast friend to merit,—a just and faithful servant of his country. The honest loved him, the dishonest feared him; for, while he lived, he did not shun but scorned and spurned the base, and, with characteristic propriety, they spurned at him when he was dead. A soldier from his earliest youth, he thirsted for the honours of his profession; and, feeling that he was worthy to lead a British army, hailed the fortune that placed him at the head of the troops destined for Spain. The stream of time passed rapidly, and the inspiring hopes of triumph disappeared, but the austerer glory of suffering remained: with a firm heart he accepted that gift of a severe fate, and confiding in the strength of his genius, disregarded the clamours of presumptuous ignorance. * * * No insult could disturb, no falsehood deceive him,—no remonstrance shake his determination. Fortune frowned, without subduing his constancy;—death struck, and the spirit of the man remained unbroken when his shattered body scarcely afforded it a habitation. Having done all that was just towards others, he remembered what was due to himself. Neither the shock of the mortal blow, nor the lingering hours of acute pain which preceded his dissolution, could quell the pride of his gallant heart, or lower the dignified feeling with which (conscious of merit) he asserted his right to the gratitude of the country he had served so truly. If glory be a distinction, for such a man death is not a leveller!—*Napier's History of the Peninsular War.*

FARNHAM CASTLE.



[Ruins of Farnham Castle.]

The parish of Farnham, in Surrey, possesses several points of interest. Its name is perhaps the most generally known from the celebrity of the hops produced within its limits; while another class of people know it best as containing the principal official residence of the bishops of Winchester; and antiquarians feel some interest in it on account of the remains of the castle built by the ancient bishops. Our present wood-cut directs our attention to the castle and palace principally.

The manor of Farnham was given to the see of Winchester by Ethelbald, king of the West Saxons, and it has ever since remained the property of the bishops. The castle, which stands upon a hill on the north side of the town of Farnham, is said to have been built by Bishop Henry de Blois, the brother of king Stephen, in the year 1129. In that age bishops were nearly as much soldiers as ecclesiastics, and, in the spirit of the times, found or thought it necessary to erect fortresses after the manner of the temporal peers; often, however, deeming it also necessary to counterpoise an act so exclusively secular by founding a number of ecclesiastical or learned establishments equal to that of their military structures. There are few points of interest in the history of Farnham Castle. It was one of the fortresses which, in the unhappy reign of King John, fell into the hands of Louis, the Dauphin of France, who possessed himself of it in June, 1216; but it was, not long afterwards, recovered for Henry III. In the course of the wars between that monarch and his barons, this castle was held by the latter, but, being taken by the king, was in a great measure destroyed by his directions. It was afterwards rebuilt in a style of considerable magnificence, with a deep moat, strong walls, and towers. No notice of it, however, occurs in history until the civil war in the time of Charles I. Sir John Denham, who was nominated for sheriff of the county in 1642, took possession of it for the king, and was appointed its governor; but he soon after withdrew to join the king at Oxford, leaving the castle to the mercy of Waller, the Parliament's General, who, after making the small garrison prisoners, blew up the fortress on the 29th of December, the same year. About a year afterwards, Sir William Waller is mentioned as having drawn up his forces in Farnham Park, and as marching from thence to Alton (nine miles distant), where he put Lord Craford to flight, and returned to Farnham with 700 prisoners, whom he secured in the castle and parish church. The next notice of the castle occurs in July, 1648, when it was referred to the committee at Derby House to take "such effectual course with Farnham Castle as to put it in that condition of indefensibleness as it may be no occasion for endangering the peace of the county." A rate was made in the county to defray the expense of this service. From this and the pre-

ceding statement it would seem that the injuries it sustained during the siege and from the subsequent blowing up, had not completely reduced it to a ruined condition.

After the restoration, Bishop Morley expended 8000*l.* in rebuilding and repairing the palace which his predecessors had erected within the precincts of the castle, and which had generally formed their principal residence. It is neither very handsome nor very convenient, and appears to have been patched up out of the building dismantled by order of Parliament. It is quadrangular, embattled, and built of brick, covered with stucco. The most impressive part is the great entrance tower at the west end, which retains the most of an ancient appearance, and confers some dignity on this front of the edifice. It is in that style of brick building which was brought into use in the reign of Edward IV. "Passing through this tower," says Mr. Carter*, "and leaving on our right the great hall, and the communications to the state-rooms, chapels, &c., as having little in their present modern dress to excite the attention of an antiquary, we enter into the great court, where, casting our eye directly in the centre of our course, the keep of noble aspect mounts before us. All prepossession in favour of antiquity apart for an instant, there is no one visitant but must feel something more than a bare satisfaction in the view of this scene—an inbred conviction of the force of simple grandeur must awaken his highest admiration." The keep was a polygon of no great area, and flanked with towers now demolished. The ascent to it is very impressive. Within the door-way, which is of massive and plain well-wrought masonry, the visiter ascends through a long avenue, at the summit of which a second door-way leads into the area of the keep, where little more than the bare walls is found to recompense the labour of the ascent. This area, as well as the ditch that surrounds the keep, forms an excellent kitchen-garden, although this scarcely seems the most appropriate use to which it could be applied.

On the east side of the great court, in the basement story, there is an avenue leading down to what was once the sally-port. Not much of the way is passable, the descent having been walled up at the distance of twenty or thirty feet; but dark as the passage is, there is still visible some excellent arch-work, with architraves of many mouldings. On the south side of the same great court appear two or three Saxon columns supporting pointed arches: the other side of these columns and arches appear within the building. Above them is a plain pointed arched vault, and some niches and recesses also appear in the walls. This remnant presents a good specimen of the original magnificence of the interior of the edifice. The alterations which have been made in the principal range of apartments by casing the walls, inserting windows, &c., appear to have been made about the time of Charles II., probably under the direction of Bishop Morley.

The deep ditch still remains, surrounding the greater part of the outworks of the castle, and being now dry, is, on the north side, planted with forest-trees. There were two parks formerly belonging to the castle, one called the Old or Great Park, and the other the New or Little Park. The former, containing about 3000 acres, was disparked and converted into farms, under an Act of Parliament in the time of Charles II. The Little Park is that which now adjoins the castle on the east, and contains about 300 acres. This park was greatly improved by Bishop North, who found it in a very neglected condition when he obtained the see. An avenue of ancient elms extends across the park for nearly a mile, and forms a pleasant promenade to the inhabitants of the town.

* 'Pursuits of Architectural Innovation,' No. LV., in 'Gentleman's Magazine for 1802.

It may not be out of place to remark that the town owes the name of Farnham (anciently Fernham) to the fern growing on the extensive heaths by which it is surrounded on all sides except the south-west. We have already alluded to the extraordinary fame which has long been enjoyed by the hops of this parish. The force of this prejudice is, or was not long ago, very apparent in the decided preference given to the Farnham hops above those cultivated in a parish from which it is only parted by a hedge, and which is equally well cultivated. "A higher price," observes Bray, "is always given at Weyhill Fair, the great mart for hops in this part of the kingdom, for those of the growth of the parish of Farnham than for any other." How long the hops of Farnham have borne this high character and price; at what period they became so famous; and what circumstances first led to that peculiar mode of management by which they command a price so much higher than that of other districts; are all questions which have never been, that we are aware of, satisfactorily answered. Mr. Stevenson, in his work on the 'Agriculture of Surrey' (1809), concludes that the reputation and superior quality of the Farnham hops arise solely from their being better sorted and cleaned, and from their being picked before they are fully ripe. To the latter circumstance alone he attributes what is termed their superior delicacy, but which he seems disposed to call their weakness. But he maintains that the high price which they bring is not so much commanded by the soil, the management, or the delicacy of the produce, as by the name which they have acquired. He thinks the growers of other districts, where the rent of land is not so enormously high as in Farnham, might produce the same quality of hops at a lower cost, but for want of the name would not be able to sell them so well, even at an inferior price. The Farnham hops generally fetch one-third more, and sometimes double those of other districts. They are chiefly bought by dealers to be retailed to private families, who prefer them on account of the pale colour and delicate flavour which they impart to malt liquor. Every pocket of hops is stamped with a particular device, which is changed every year; and the hop-growers bind themselves under a severe penalty not to put into the pockets thus marked any other hops than those which are grown about Farnham.

We may probably take an early opportunity of describing a hop-garden.

CHINA.—No. VII.

Tea.

In a country so extensive as China, reaching from the neighbourhood of Hindoostan to the borders of Siberia, and containing every variety of soil and temperature, a great diversity of natural productions must be expected to prevail. Almost all the animals and minerals of China are, however, common to many other countries, and are so well known as to require no description, but many of its plants are found in no other country, and from their great utility and peculiar importance they must be particularly noticed in such an account of the country as it is our object to furnish.

Of all its botanical productions, that which is most completely associated in our ideas with China is tea. Industry and perseverance have succeeded in naturalizing in Europe many exotic plants, but, in defiance of every attempt, tea has hitherto remained unalienable; and although it appears to flourish in our own climate, and with care will stand the rigorous winter of this country, as well as many other plants which are completely acclimatized, no attempts to render the leaf available appear to have succeeded. The tea-plant, by the aid of a few Chinese gardeners, has however been cultivated with success at Rio Janeiro. Mr.

Clarke Abel also saw it flourishing on the hills of St. Helena; and this gentleman is of opinion it may be grown on the mountains of most tropical islands, and on the inland hills of temperate continents, if care be taken to select a meagre soil and a moderate temperature. Of all the British dependencies, he is of opinion that the Cape of Good Hope is the best adapted for its cultivation, both on account of its geographical situation and of the nature of its soil, which is, like that of the tea-districts of China, mainly composed of disintegrated sand-stone, schistus, and granite, with but little accumulation of vegetable mould.

The gentleman meets the objection that has been started as to the difficulty of transporting tea-plants from China in sufficient numbers, and in such health as to give a fair chance to the experiment for their cultivation in our colonies or elsewhere, by asserting that a great number of plants, which were on board the Alceste, bore the voyage without suffering; were in the most vigorous state the day before the unfortunate wreck of that ship; and would doubtless so have reached the places of their destination,—the island of St. Helena and the Cape of Good Hope.

As to the preparation of tea, he is of opinion that it is less complicated and difficult than has been imagined; that every information respecting it might be easily obtained at Canton; and in fact, that such information is, in all probability, already in the possession of many Europeans. He concludes, on this important subject, "that if ever it shall suit the policy of this country to derive the tea from any of our own dependencies, there can be no doubt that we shall cease to be indebted to China for an article that enters so essentially into the comforts of all classes of my countrymen."

The immense consumption of tea in this country entitles it to precedence in a notice of Chinese plants. It has become with us no longer a luxury, but a necessary of life. It would be difficult, or almost impracticable, to return to the quarts of ale and rounds of beef described to have formed the breakfasts of Queen Elizabeth's maids of honour; and, with our present population, the consumption of any native produce, consequent on the abandonment of tea, must be attended with a decrease of other productions which would greatly augment the expenses of living. Only a century and a half ago, two pounds of tea was deemed a present worthy of being made to a British monarch; and at the present time above 30,000,000 of pounds are annually consumed in this country.

It has been said that the use of tea among the Chinese is not of ancient date, founded on the assertion that the character representing tea is not found in any ancient Chinese work. If this be true, it is but negative evidence, and it would require vast research and a close acquaintance with Chinese literature to prove that it is true. We have, however, positive evidence of its being used as early as the eighth and ninth centuries. A tax on tea is mentioned in the 'Annals of the Dynasty of Tang;' and in the Journal of an Arabian merchant who traded with the Chinese at that early period, mention is made of the infusion of a herb named *sah*, much drunk by the inhabitants: this herb is evidently tea, and its name *sah* is as near an approximation to the Chinese name *chah*, as the Arabic alphabet is capable of expressing *.

It may be interesting to trace the gradual increase in the use of tea with us,—from the time when it was first tasted as a curiosity to the present period. The first time we find it mentioned in this country is in an act of parliament passed in 1660, by which we find it charged with a duty of 1*s*. 6*d*. per gallon when drunk in public-houses. In the following year Pepys speaks of it in his Diary in the following terms:—"Sept. 25. I sent for a cup of tea (a Chinese drink), of which I had never drank before." In 1664 a present of two pounds two ounces of tea was made by the East India Company to Charles II.,—probably all that could be procured in London. The price was then about two guineas per pound; and the tea appears to have been procured from the continent, as the first importation by the Company was in 1669, when two canisters were received by them containing 150 lbs. It appears, however, to have been hardly considered as an article of commerce, the first order for tea being sent to Madras The singular terms of this order will show how recent was the introduction of the herb, and the estimation in which it was held. "In regard tea is grown to be a commodity here, and we have occasion to make presents thereof to our great friends at court, we would have you yearly send us five or six canisters of the very best and freshest; that which colours the water in which it is infused most of a greenish complexion is best esteemed."

In the year 1678 nearly 5000 lbs. were imported: this quantity, which would now be sold at one large shop in London, appears to have overstocked the country, for we find only 410 lbs. imported altogether in the six following years, but after this time the demand for tea slowly increased: our ancestors gradually acquired a preference for the social and exhilarating beverage over the heady ale which accompanied their former repasts, and about the end of the century nearly 20,000 lbs. of tea were brought every year to England. In twenty years from this time the annual importation reached above a million pounds, being an increase of fifty-fold in twenty years.

From this time the consumption of tea, almost without fluctuation, increased to its present enormous amount; which is perhaps greater than the quantity consumed in all the countries of the world, excepting China.

The Chinese are in the constant habit of using tea: the mandarin in his palace, and the labourer in the field, are equally accompanied by the kettle and the tea-pot; and the elegant handling of the cups and service of the beverage form an essential branch of female education. The tea-pot forms an important part of the equipage of the traveller, and for those who have not time or convenience to prepare their own tea, booths are erected for its preparation and sale on every great road. As the sensualists of Europe celebrate the qualities of wine, so those of China exhaust the language of poetry in describing the effects produced by tea; and even an emperor has condescended to write an ode on the mode of preparing it. This trifle, which is inscribed on every tea-pot in China, was written by the emperor Kien Long, who died in 1799. We give a translation of it to show the Chinese mode of making tea, though it will give but a poor idea of the merit of the imperial author, whose other productions however are far from contemptible.

"Place over a gentle fire a well-seasoned and long-used vessel filled with the pure water of melted snow. Boil it long enough to turn a lobster red, and then pour it upon the leaves of the choicest tea in a tea-pot of the finest porcelain. When the thick cloud rising from it becomes a thin mist floating on its surface, pour it into the cup and drink it off. This precious liquor will drive away every care. The delicious state of quietude produced by such a beverage must be felt, and cannot be described."

The fine leaves of the *camellia sesanqua* (called by the Chinese *Cha wha*, or "flower of tea"), are mixed with tea to give it a fine odour. The whitish or grey leaves found in pekoe tea are usually of this plant: the *olea fragrans* and Arabian jessamine are occasionally employed for the same purpose.

* The word *chah* or *chai* is used by all the Eastern nations, and by the Russians and Portuguese as the name of tea. It is called *te* in the dialect of Fokien, from which province we first received the herb, and probably the name.

Tea is prepared in a peculiar form for the use of the Tartars; before the leaves are quite dry, they are moistened with a slightly glutinous liquid, said to be the serum of the blood of the sheep, and then pressed into moulds, from which they take the form of a large brick, whence this sort of tea is denominated brick-tea*. All Tartars, from the borders of Russia to the Eastern ocean, use this tea: they prepare their drink by scraping off a portion of the "brick," and boiling it in a saucepan with butter, flour, and milk,—a mixture which would scarcely seem agreeable to our palates, but which Europeans who have partaken of it assure us is palatable, and, after a very little use, equally pleasant with tea prepared in our way.

As to the qualities and properties of tea, notwithstanding our constant experience of its effects, nothing seems to be decided. Almost every good and every bad quality has been by some person or other attributed to this herb, perhaps with equal truth. It is doubtless of great use in correcting the half-putrid quality of stagnant water; and as much of the water used in China is taken from ponds or canals, it is probable that the use of tea had its origin from such a cause. Much of this effect is without doubt produced by the boiling; and toasted bread would perhaps be as useful for this purpose: but there is an exhilarating property in tea which will always render its use indispensable to the ladies, and to those of the other sex whose employments are of a sedentary nature.

The Chinese attribute a thousand excellent qualities to the use of tea: they assert that without it the pork and fat meats which are much used by those whose circumstances admit of anything beyond a vegetable diet would be very prejudical by the gross humours they engender in the system; but, at the same time, they say that an excessive use of strong tea is very weakening, from the continual irritability which it produces, unless that excitement is corrected by eating abundantly of fat meat.

The tea-tree grows to the height of five or six feet: it is generally allowed to be of two sorts, the black and green, though it has been asserted that there is only one sort of tea, and that the difference between black and green tea consists in the green being young and the black old leaves. If this were the case, we should surely find the green leaves smaller than the black, but as they are of the same size, the hypothesis must be unfounded. The distinguished naturalist Mr. Clarke Abel inclined to believe that there were two species of the tea-plant, though he could not at first sight define their characters, and afterwards lost the specimens, by which he expected to establish them, in the unfortunate shipwreck of the "Alceste." He remarks, however, "that the plants which had been brought from the black and green tea districts differed in the form, colour, and texture of their leaves; those of the green tea-plant being longer, thinner, and of a lighter colour than those of the black, although growing in the same soil." And Mr. Abel also observed at his leisure, and in the growing plants, the same difference of character in a large tea-plantation near Macao. Still he admits, immediately afterwards, on the authority of those perfectly conversant with the Chinese method of manufacturing the leaf, that either of the two plants will afford the black or the green tea of the shops, but that the thin-leaved plant is preferred for making the green tea. He is of opinion that the difference both of colour and quality between the two teas may be explained by the different management of heat used in drying the plant. "There can be little doubt," he says, "that a leaf dried at a low heat will retain more of its original colour, and more of its peculiar qualities, than one that has suffered a high temperature. Supposing, therefore, the leaves of the same species or variety of the tea-plant to have undergone such different degrees of heat in their preparation, their peculiar properties would be expected to occur of greatest strength in those of the greenest colour, or in those to which both Chinese and Europeans attribute the most powerful properties. I may here add, that by far the strongest tea which I tasted in China, called 'Yu-tien,' and used on occasions of ceremony, scarcely coloured the water. On examining it with a view to ascertain the form of the leaves, I found it to consist of the scarcely-expanded buds of the plant*."

Others have ascribed the difference to the mode of drying the leaves, which are said to be naturally black, and to become green by being dried on copper plates, which process communicates a tinge of verdigris to them. A very little acquaintance with chemistry will however dispel such an idea: the presence of one-thousandth part of copper would be very easily discovered in tea, and it is certain that the most delicate analysis has been unable to find any. A more probable opinion is, that the two sorts of tea were originally one, but that soil and cultivation have made the difference between them. In proof of this assertion, it is stated that a green tea-tree transplanted to certain provinces will produce black tea; and a black tea-tree transferred to a soil usually productive of the green tree will in future produce green tea. It is not material which opinion is correct; the mode of preparation, with some slight differences of care and manipulation, is the same in both.

The tea-tree is usually cultivated in valleys or on the declivities of hills, and the neighbourhood of a running stream or the bank of a river is considered desirable. Holes of five or six inches depth are made for the reception of the seeds, which are carefully deposited, four or five in each hole. When the young tree appears, it is very carefully attended to, occasionally watered, and closely examined, in order that the tender leaves may not be injured by the many destructive insects produced in China. Although the youngest leaves produce the best infusion, it is not considered advantageous to gather any until the third year, when the tree usually attains the height of four feet, as an early gathering would be very injurious to the future growth of the tree, and frustrate any hopes of profit arising from the superior quality of the young leaves.

The first gathering is performed in the month of March, when the best tea is prepared. Great precautions are taken in this gathering: the persons employed are said to prepare themselves for some weeks previous by eating only of such food as may communicate agreeable odours to the skin and breath, and to wear gloves of a peculiar material when employed in their work. Such precautions are probably taken only when tea is gathered for imperial use; and it is usual in this gathering to pluck each leaf separately; but the labourers are so expert that they are able to gather a dozen pounds in the course of a day.

The second season for tea-gathering is the month of April; the tea produced at this season is coarser and cheaper than the former, and prepared with less care, but is still of a fine sort, and occasionally the smaller and more delicate leaves are selected, and sold as tea of the first produce. In the month of June those trees which were left untouched in the spring are covered with an abundant crop; the leaves are now larger and coarser, and are consequently of an inferior price: but the abundance of the harvest compensates the owner for the delay and inferiority of the produce. Above nine-tenths of the tea consumed in China and in Europe are prepared at this season.

When the tea leaves are gathered, the labours of the producer are only begun. Baskets full of the leaves are

* These bricks are named by the Tartars "saturan," and they serve as money among many of their tribes.—Timkowski, i. 37.

* Narrative of a Journey in the Interior of China, &c., p. 221.

taken to a drying-house, which is generally a public building in the neighbourhood of the tea countries, and where persons may send their leaves and dry them by their own servants, on payment of a small sum to the owner of the house. These drying-houses are provided with a great number of small stoves or furnaces, each furnished with a thin plate of iron at the top; a gentle fire is kindled in the stove, and increased until the iron is sufficiently heated: this is ascertained by throwing a fresh leaf upon it, and listening attentively to the sound produced; a peculiar crackling noise shows the experienced workman that he may proceed to business. He begins by throwing a heap of fresh leaves upon the heated iron, he then shifts them from place to place as rapidly as possible, that they may be all sufficiently heated, but not scorched. When the leaves begin to shrink and curl up with the heat, they are all swept quickly off the iron, and thrown upon a large table covered either with paper, or with soft matting as fine as damask. They are there received by another set of workmen seated round, who dexterously roll the cooling leaves between their hands, while a third set stand, by fanning that they may cool rapidly, and readily take the proper curl. When the leaves are quite cool, they are again thrown upon the hot iron-plate, and again rolled between the fingers as before; and this operation is repeated three or four times, until it is ascertained that they are quite dry. The common tea of the last gathering is usually exposed to the vapour of hot water before it undergoes the operation of drying, probably in order to soften the harsh leaves, and allow them to take the proper curled form; but, according to the Chinese, their steaming process is necessary to drive away a certain noxious quality always found in the coarser kinds of tea. When the tea has undergone the operation of drying, it is packed up in baskets for some months; but previous to the final packing for sale or exportation, it is taken out once more and dried before a gentle fire: it is then closely trodden into chests or vessels prepared to receive it.

The poorer people in the country, who grow a little tea in their own gardens, content themselves with drying their leaves in an iron-kettle over a low fire, shaking the kettle as the leaves dry, and stirring them up with their hands; when they judge the tea to be well done, they pack it in baskets, and hang them under the hole in the roof of their huts, through which, like their less civilized neighbours, they allow the smoke of their fires to escape, not having adopted the convenient accommodation of chimneys. As no tea is drunk in China until it has been prepared at least a twelvemonth, we may suppose that the smoking it receives in this situation will not communicate a very agreeable odour to the favourite beverage.

The best tea grown in China is cultivated in the province of Kiang-nan, that beautiful province of which Nankin is the capital, and which produces an abundance of every necessary and luxury; but the greatest part of the common black teas exported to Europe comes from Fokien, where formerly European traders were permitted to resort, until the disorders supposed to arise from the intercourse with foreigners induced the government to restrict all communication to a single port.

The Russians, however, who carry on the overland trade in tea, derive their supplies from another province; and a merchant long resident in Russia, and conversant with the China trade, has assured us that the superiority of the tea brought into the European market by the Russians does not depend on its not having been exposed to a sea-voyage (commonly supposed in England to be injurious to the flavour of the herb), but entirely on the greater fitness or excellence of the soil, &c., in the districts from which the Russians alone are permitted to draw their teas.

A ST. KILDA MAN'S VISIT TO GLASGOW.

MARTIN'S 'Description of the Western Islands of Scotland,' published in 1703, contains a curious account of a visit which a native of the island of St. Kilda had, in some previous year, paid to the city of Glasgow. We give it here not only as curious and amusing in itself, but as possessing some degree of interest in connexion with the illustrations we have lately given of the past and present condition of that great town. It must also be always interesting to observe from a vantage ground the feelings with which men regard forms of life that differ from their own.

"One of the inhabitants of St. Kilda being some time ago wind-bound in the isle of Harries, was prevailed upon by some of them that traded to Glasgow to go thither with them. He was astonished at the length of the voyage, and of the great kingdoms, as he thought 'em, that is, isles, by which he sailed. The largest in his way did not exceed twenty-four miles in length, but he considered how much they exceeded his own little native country.

"Upon his arrival at Glasgow, he was like one that had dropt from the clouds upon a new world, whose language, habits, &c., were in all respects new to him. He never imagined that such big houses of stone were made with hands; and for the pavement of the streets he thought it must needs be altogether natural; for he could not believe that men would be at the pains to beat stones into the ground to walk upon. He stood dumb at the door of his lodging with the greatest admiration; and when he saw a coach and two horses, he thought it to be a little house they were drawing at their tail, with men in it; but he condemned the coachman for a fool to sit so uneasy, for he thought it safer to sit on the horse's back. The mechanism of the coach-wheel and its running about was the greatest of all his wonders.

"When he went through the streets he desired to have one to lead him by the hand. Thomas Ross, a merchant, and others, that took the diversion to carry him about the town, asked his opinion of the High Church? He answered that it was a large rock, yet there were some in St. Kilda much higher, but that these were the best caves he ever saw; for that was the idea he conceived of the pillars and arches upon which the church stands. When they carried him into the church he was yet more surprised, and held up his hands with admiration, wondering how it was possible to build such a prodigious fabric, which he supposed to be the largest in the universe. He could not imagine what the pews were designed for, and he fancied the people that wore masks (not knowing whether they were men or women) had been guilty of some ill thing for which they dared not show their faces. He was amazed at women's wearing patches, and fancied them to have been blisters. Pendants seemed to him the most ridiculous of all things; he condemned perriwigs mightily, and much more the powder used in them. In fine, he condemned all things as superfluous that he had not seen in his own country. He looked with amazement on everything that was new to him. When he heard the church bells ring he was under a mighty consternation, as if the fabric of the world had been in great disorder. He did not think there had been so many people in the world as he saw in the city of Glasgow; and it was a great mystery to have to think what they could all design by living so many in one place. He wondered how they could all be furnished with provision, and when he saw big loaves, he could not tell whether they were bread, stone, or wood. He was amazed to think how they could be provided with ale, for he never saw any there that drank water. He wondered how they made their fine clothes, and to see stockings made without being first cut and afterwards sewn, was no small wonder to him. He thought it foolish in women to wear their silks, as being a very improper habit for such as pretended to any sort of employment. When he saw the women's feet, he judged them to be of another shape than those of the men, because of the different shape of their shoes. He did not approve of the heels of shoes worn by men or women; and when he observed horses with shoes on their feet, and fastened with iron nails, he could not forbear laughing, and thought it the most ridiculous thing that ever fell under his observation. He longed to see his native country again, and passionately wished it were blessed with ale, brandy, tobacco, and iron, as Glasgow was."

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CONVENT OF MOUNT SINAI.



[Mounts Sinai and Horeb, with the Convent of St. Catherine, from the North.]

The present wood-cut exhibits the convent of St. Catherine at the base of Gebel Mousa, or Mount Horeb, or rather at that elevated part of the entire mountain where it begins to separate into the two peaks to which the respective denominations of Sinai and Horeb have been given. The mountains having been sufficiently noticed in the article to which this may be regarded as a sequel, the present account will be limited to the Convent. The best and fullest account of this establishment has been given by Burckhardt in his 'Travels in Syria and the Holy Land;' and little more remains for us to do than to condense the information which he has furnished, and to make some transpositions in the form of its arrangement.

The local traditions date the origin of the Convent of Mount Sinai in the fourth century. It is said that the Empress Helena, the mother of Constantine, caused a small church to be erected over the spot where Moses was called to his great mission from the bush that burned without being consumed. As to the part the Empress Helena had in the transaction, we may notice that in the south-east of Europe and the west of Asia this lady has the credit of more good works than she did; for she did so many of this sort, that it became a custom to attribute to her almost every establishment of remote and unascertained foundation. As this church helped to draw many visiters and monks to the mountain, small convents were erected in different parts of the peninsula of Sinai during the following century. But the monks and recluses who had settled themselves in these establishments, were so much distressed by the Bedouins who frequented this region, that they were induced to petition the emperor Justinian to build a fortified convent in which they might be protected against their oppressors. He listened favourably to their application, and sent workmen from Constantinople and Egypt, with instructions to build such a convent upon the summit of the mountain of Moses. This exposed and elevated site would have been a most uncomfortable situation for its inmates, on which account, as well as from the want of water there, the persons to whom the work was intrusted were discreet enough to erect it on its present site. When it was completed, Justinian sent some slaves, natives of the shores of the Black Sea, to act as servants to the convent, and they established themselves with their families in the neighbouring valleys. A few years afterwards, the convent acquired possession of the bones of St. Catherine, as already mentioned. This circumstance greatly strengthened the claim of the convent church to the veneration of the Greeks.

It is a cherished belief among the monks of Mount

Sinai that Mohammed himself, in one of his journeys, alighted near the walls of the convent, and that, impressed with a due veneration for the mountain of Moses, he presented to the convent a firman to secure to it the respect of his followers. It is said that the document was written by the famous Ali, his cousin and son-in-law; and that the prophet himself, being unable to write, confirmed it by impressing his extended hand, blackened with ink, upon the parchment. The story goes on to say, that this document remained with the convent until Selim I. conquered Egypt, when, hearing of this precious relic, he sent for it, and added it to the other relics of Mohammed in the imperial treasury at Constantinople, sending the monks, instead, a copy of the original, certified with his own cipher. This they still profess to have, and Burckhardt examined it, and finding its contents at variance with the statements of the monks, concludes from intrinsic as well as from collateral evidence, that the document is a forgery, and the story an utter fiction.

Notwithstanding the difficulties to which the monks must have been exposed from the warlike and fanatical followers of the new faith, the strength of the building, the meekness and patience of its occupants, and their judicious distribution of money, preserved the convent from injury. It would seem from the statement of the monks, that their predecessors were made responsible by the sultans of Egypt for the protection of the caravans of Moslem pilgrims from Cairo to Mecca, on that part of the road which lay along the northern frontier of their territory from Suez to Akaba. To enable themselves to discharge this duty, they thought it proper to invite several tribes of Bedouin Arabs to settle in the fertile valleys of Sinai, and become protectors of the road. The Arabs came, but their power increasing, as that of the monks declined, they gradually took possession of the whole peninsula, and confined the monks to the convent.

The convent is situated in a valley so narrow, that one part of the building stands on the western mountain, while a distance of twenty paces only is left between its walls and the eastern mountain. This valley is open to the north, whence the road from Cairo approaches; but to the south, close behind the convent, it is shut up by a third mountain, less steep than the other, over which passes the road to Sherm. The convent is an irregular quadrangle, of about 130 paces on each side, enclosed by a high and solid wall, the lower part built with blocks of granite, and fortified by several small towers. The upper part of the wall is built of a mixture of granite-sand and gravel, cemented together by mud, which has acquired great hardness. The convent contains eight or ten small court-yards, some of which are neatly laid out in beds of flowers and vegetables; and a few date-trees and cypresses also grow there, with a great number of vines. The distribution of the interior is very irregular, in consequence of the slope on which the building stands; but the whole is very clean and neat. There are a great number of small rooms in the lower and upper stories, few of which are now occupied. The principal building of the interior is the great church, which, as well as the convent, was built by Justinian, but has since undergone frequent repairs. The form of the church is an oblong square; the roof is supported by a double row of fine granite pillars of different designs, which have been covered with a coating of plaster, perhaps because the natural colour of the stone was not agreeable to the monks, who saw granite on all sides around them. The dome over the altar still remains as it was originally constructed by Justinian, whose portrait, with that of his wife Theodora, may still be distinguished upon the dome, together with a picture of the 'Transfiguration,' in honour of which event the convent was erected. The walls around the altar are profusely adorned with silver lamps, paintings, and portraits of saints, among whom figures St. Christopher with a dog's head. The floor of the church is finely paved with slabs of marble. Here are deposited the remains of St. Catherine, who has given her name to the convent and to the mountain on which it stands. Attention is also attracted to the silver lid of a sarcophagus, on which is represented a full length figure of the Empress Anne of Russia. It was sent here by that princess, who entertained an intention, which was never carried into effect, of being interred within it. In a small chapel adjoining the church, the monks show the place where they suppose the burning bush to have stood; and this is considered as by far the most holy spot in the mountain. Besides the great church there are twenty-seven other churches and chapels dispersed over the convent, in many of which daily masses are read, and in all of them at least one every Sunday. This establishment resembled, in fact, that of the Holy Sepulchre at Jerusalem, containing chapels for all the principal Christian sects, except those of the Protestants. Many of them have long been deserted by their owners. The most remarkable thing is to find amongst them a Mohammedan mosque, large enough to contain 200 persons at their devotions, and standing close by the great church. The monks say it was built to prevent the destruction of the convent, and they relate that the sultan Selim took a great fancy to a young Greek priest, who happened to fall sick, and was sent to this convent for the recovery of his health. The man died; whereupon the sultan, who considered the monks the cause of his death, gave orders to the governor of Egypt to destroy all the Christian establishments in the peninsula, of which there were several at this period. The monks of St. Catherine hearing of this order, and the preparations which were making to put it into execution, hastened to erect the mosque in question, in the hope that the whole concern would be spared for its sake. Their device succeeded, and the mosque has, on the same principle, ever since been kept in repair. But the Arabic records in the convent describe the mosque as existing more than a century previous to the date which this tradition assigns, and mentions circumstances which seem to demonstrate that it really was so. It is kept in order by the Bedouin servants, who use it on Fridays for their devotions. It is sometimes visited by Moslem pilgrims, and it is only when some Mussulman of distinction happens to be there that the call to prayer is made from the minaret.

There are two deep and copious wells of spring-water within the convent. One of them is called the Well of Moses, in the belief that he was the first who drank of its water. The other is declared by the monks to have been the work of an English lord, and bears the date 1760: there is also a reservoir for rain-water. Thus the monks are happily left without occasion to depend for their own purposes upon the powers which their wild neighbours believe them to possess. The Bedouins suppose that the rains are under the particular control of Moses; and they are persuaded that the monks are in possession of a book called 'Taourat,' sent down from heaven to Moses, upon the opening and shutting of which the rains of the peninsula depend. The monks find this reputation a great practical inconvenience, but this is a natural consequence of their plans for enhancing their own reputation among the Arabs. They were accustomed in times of dearth to proceed in a body to Gebel Mousa to pray for rain, and when rain came, they encouraged the belief that it was owing to their intercessions. They succeeded in this object, but had not calculated on the result; which was that the Bedouins, naturally enough, inferred that if the monks could bring rain, they also had it in their

power to withhold it; and the consequence is, that whenever a dearth happens, they accuse the monks of malevolence, and often tumultuously assemble and compel them to repair to the mountain to pray. "Some years since," says Burckhardt, "soon after an occurrence of this kind, it happened that a violent flood burst over the peninsula and destroyed many date-trees: a Bedouin, whose camel and sheep had been swept away by a torrent, went in a fury to the convent and fired his gun at it; and, when asked the reason, exclaimed—'You have opened the book so much, that we are all drowned!' He was pacified by presents; but in parting he begged that in future the monks would only half open the 'Taourat,' in order that the rains might be more moderate."

None of the churches or chapels in the convents have steeples. There is however a bell, which seems to be rung only on Sundays. The usual mode of calling the monks to morning prayers is by striking with a stick upon a long piece of granite suspended from ropes, which produces a sound heard all over the convent; close by it hangs a piece of dry wood, which emits a different sound, and summons to vespers. This last method is a very common substitute for a bell in the Christian convents of the East, where the use of bells is interdicted by the Moslem rulers.

At present, the convent of Mount Sinai contains a prior and about thirty monks. The prior is the true head of the community, and manages all its affairs; but the order of Sinai Monks, in general dispersed over the east, is under the control of an archbishop, chosen by a council of delegates from Mount Sinai and from the affiliated convent at Cairo. Besides this last convent, which contains a prior and fifty monks, Mount Sinai has establishments and landed property in many other parts of the east, especially in the Archipelago and at Candia. It has also two small churches in India,—one at Calcutta and the other at Surat. Most of the monks in the Sinai-convent are natives of the Greek islands. They do not generally remain more than four or five years, when they return to their own country, and exult all the rest of their lives in having been sufferers among the Bedouins: some, however, remain there permanently. They are very ignorant. When Burckhardt was there, he found that few of them understood Arabic, and that none of them could read or write it: few could read even modern Greek (their mother-tongue) fluently, except in their prayer-books, and there was only one who had any notion of ancient Greek. They have a good library, which they do not know how to value properly, though they are not willing to part with the books, which consist of about 1500 Greek volumes and 700 Arabic manuscripts. When Sir Frederick Henniker was there, the books which were considered the most valuable had been carried to Egypt.

The convent is at present seldom visited by strangers, although so late as the last century regular caravans used to arrive from Cairo and from Jerusalem. The documents of the convent speak of 800 Armenians arriving from Jerusalem in one day, and at another time 500 Copts from Cairo. At present, from sixty to eighty is the greatest number of visiters in any one year. They are always glad to see strangers there in the wilderness, and they receive them hospitably and treat them with kindness. The gate is walled up; and, when a stranger arrives, the warden must be summoned by strength of lungs. He lets down a cord, to which the traveller attaches his letter of introduction. If this proves satisfactory to the prior, a rope, with a stick fixed transversely to the end of it, is let down from a window between thirty and forty feet from the ground, and the stranger is hoisted up by a windlass.

The discipline of the monastery with regard to food and prayer is very severe. The monks are obliged to attend mass twice in the day and twice at night. Their regulations require them to abstain from flesh all the year round, and their fasts are very rigid. Bread and vegetables constitute their principal diet. They obtain their vegetables from a pleasant garden adjoining the building, into which there is a subterraneous passage. It produces all sorts of fruits and vegetables of the finest quality; but it is seldom visited by the monks, excepting the few whose business it is to keep it in order: for although enclosed by high walls, it is not inaccessible to the Bedouins, who for some years past have been the sole gatherers of the fruits, leaving only the vegetables for the monks, who have thus been obliged to re-purchase their own fruits from the pilferers, or else to buy it in other parts of the peninsula. The excellent air of the convent and the simple fare on which the monks live render diseases very rare among them; and many of them are very old men, in the full possession of their bodily and mental powers. They have all taken to some profession,—a mode of rendering themselves independent of Egypt, which was also practised in former times, when the three hundred private chambers now empty were occupied. Among the monks, Burckhardt found a cook, a distiller, a baker, a shoemaker, a tailor, a carpenter, a mason, a smith, a gardener, a candlemaker, &c. Each of these had a workshop, and traces of the former wealth and industry of the establishment may still be discovered in the worn-out and rusty utensils of the various trades. The bakehouse and distillery are still kept up on a large scale. In the latter they make brandy from dates, which is the only solace these recluses enjoy, and in this they are permitted to indulge even during the fasts.

Previously to 1760 the Archbishop used to reside in the convent; but the cost and inconvenience which his residence would entail upon the convent in the present declining state of its affairs has rendered it expedient for him to reside abroad. His presence would entitle the Bedouins to great fees, particularly on his entrance, when also the walled-up gate must be opened to admit him, and then all the Bedouin Sheiks would also have a right to enter within the walls.

The Bedouins contrive to keep the good monks pretty constantly in hot water, as the reader will already have perceived. They have established the custom that whoever amongst them comes there, whether man, woman, or child, is to receive bread for breakfast and supper, which is lowered down to him from the window, as no Bedouins, except the servants of the house, are ever admitted within the walls. Fortunately there is no good pasturage in the immediate neighbourhood, which renders it necessary for the Arabs to have their encampments at some distance; hence their visits are by no means so frequent as might be supposed. Yet scarcely a day passes in which the monks are not required to furnish bread to thirty or forty persons. In the last century the Bedouins enjoyed still greater privileges, and had a right to call for a dish of cooked meat at breakfast and another at supper. It is difficult to understand how the monks persuaded them to relinquish this privilege. When a sheik or head-man calls at the convent, he receives, besides his bread, some coffee, beans, sugar, soap, and sometimes a handkerchief, medicines, or articles of clothing. It seems, however, that such of the tribes as are styled protectors of the convent, are, in return for the privileges they enjoy, expected to protect, or rather to abstain from molesting, the pilgrims to the mountain, and to respect and assist in transporting loads destined for the convent. Such services entitle the more distant tribes to annual presents in clothes and money. This state of the relations between the

monks and the Araos often occasions serious disputes. If a sheik calls at the convent, for instance, and is not well satisfied with the present he receives, he immediately declares himself the enemy of the monks, and begins to lay waste some of their gardens, and is only to be appeased by a present. Notwithstanding all the exactions to which they are exposed, Burckhardt conceives that about 1000*l.* a year is sufficient to cover all the ordinary and extraordinary expenses of the establishment. The same writer informs us that "The Arabs when discontented, have sometimes seized a monk in the mountains and given him a severe beating, or have thrown stones or fired their musquets into the convent from the neighbouring heights. About twenty years ago a monk was killed by them. The monks in their turn have fired occasionally upon the Bedouins, for they have a well-furnished armoury, and two small cannon, but they take care never to kill any one. And although they dislike such turbulent neighbours, and describe them to strangers as very devils, yet they have sense enough to perceive the advantages they derive from the better traits in the Bedouin character, such as their general good faith and their placability. 'If our convent,' as they had observed to me, 'had been subject to the revolutions or oppressions of Egypt or Syria, it would long ago have been abandoned; but Providence has preserved us by giving us Bedouins for neighbours.'"

HOPS.



[Hop-Garden, Farnham, Surrey.]

THE hop is a perennial-rooted plant with an annual twining stem, which, on poles or in hedges, will reach the height of from twelve to fifteen feet, or even more. It is a native of Britain and most parts of Europe, in hedges, flowering in June, and ripening its seeds in September. It has been cultivated from time immemorial in Europe on account of the useful properties of its flowers in the preservation of beer. The female blossom is the part used; and as the male and female flowers are on different plants, the female only is cultivated. It is nowhere cultivated in the East, and although it grows wild in different parts of Asia (a fact which may not be generally known), its flowers are nowhere in that quarter of the world applied to a useful purpose. The generic name of the plant, *humulus*, is formed from *humus*, "fresh earth,"—the hop growing only in rich soils; and the specific name of the common hop, *lupulus*, is a contraction from *lupus salictarius*, the name by which it was, according to Pliny, formerly called, because it grew among the willows, to which, by twining round and choking up, it proved as destructive as the wolf to a flock. It is rather curious that an allusion to the wolf is also contained in the ancient British name of the plant, *llewig y blaidd*, or "bane of the wolf." The current name, *hop*, seems to proceed from the Anglo-Saxon *hoppan*, to climb.

The proverbial distich given in Baker's 'Chronicle,'

"Turkey, carps, hoppes, piccarel, and beer,
Came into England all in one year,"

has led to the impression that hops were not known in

this country till the reign of Henry VIII., or about the year 1524; but, in truth, the plant was known long previously, for it grew wild by the side of hedges and upon banks in many parts of England, and its young shoots were and are often gathered by poor people, and boiled as an esculent vegetable. The young shoots of the cultivated hop are now also gathered in the spring, and eaten as asparagus, being sold under the name of hop-tops. The fact seems to be, that the *culture* of the plant was introduced from the Low Countries in the time of Henry VIII.; but that it had before that period been imported and used on a limited scale in the preparation of beer, would appear from the fact, that in the reign of Henry VI. (A.D. 1428) the hop was petitioned against as a "wicked weed." Hops are first mentioned in the English Statute Book in 1552, in the act 5 Edward VI. chap. 5, where lands "set with saffron or hops" are mentioned among other exceptions to the operation of the statute itself, which enacted that so much land should be kept in tillage as had been at any time in tillage since the first of Henry VIII. It does not appear, however, that the culture of hops proceeded very rapidly at first; for so late as the reign of Queen Elizabeth they were fetched in considerable quantities from the Low Countries. But from an Act of Parliament in the year 1603, it seems that hops were then cultivated in great abundance. The introduction of the culture itself, and the consequent extended use of hops in the preparation of beer, seem to have revived the alarm which the previous petition indicated. This appears from the third and improved edition, published in 1652, of a work originally published in 1649, under the title of 'The English Improver, or a New Survey of Husbandry, by Walter Blith, a Lover of Ingenuity.' In the chapter on hop-plantations, he says,—"As for hops, it is grown to a national commodity. But it was not many years since the famous city of London petitioned the parliament of England against two nusancies, or offensive commodities, that were likely to come into great use and esteem, and that was Newcastle coal in regard of their stench, &c., and hops in regard they would spoyl the taste of drink, and endanger the people, and from some other reasons I do not well remember: but petition they did to suppress them, and had the parliament been no wiser than they, we had been in a measure pined, and in a greater measure starved, which is just answerable to the principles of those men that now cry down all devices or ingenious discoveries as projects, and so this day thereby stifle and choak improvements; yet we see what nationall advantages they have since yeelded, and no less will many of the other."

There is only one species of the hop-plant under cultivation; but it has several varieties, which employed in various circumstances and situations, suc as the red-bind, the green-bind, the white-bind, and some others. The first of these affords a very small hop, growing on a red-bind, and is by no means so much prized as the others; indeed it would hardly be cultivated at all were it not that it is a much more hardy plant than the rest, bearing more exposed situations, and remaining strong and healthy when the others are covered with flies and lice. During the picking season, also, it is less exposed to injury from the effects of sun and rain. These qualities secure it the attention of the cultivator, who may calculate with tolerable certainty on obtaining a crop from this variety even should the others prove unproductive or be spoiled. The green-bind sort, though less hardy than the preceding, is a very productive bearer, and often succeeds well in the medium description of hop soils, even where the exposure is by no means favourable. The white-bind variety, however, although a more tender and delicate plant, is held in the highest estimation by the hop-planters, as it reaches maturity more early and bears a higher price in the market. Hops are also distinguished by planters, as the Flemish, the Canterbury, the Goldings, the Farnham, and some other similar titles. The Farnham, as we had occasion to notice in our last Number, is the most prized; and the Flemish is in the lowest estimation, being the red-bind sort, which has just been mentioned. The varieties come to maturity at different times, which occasions them to be laid out in different plantations.

We must refer the reader to works on agriculture, and the articles on Hops in Encyclopædias, for details respecting the soils most suitable for hop plantations, only observing that the most productive grounds are those which have a deep rich loamy surface, with a sub-soil of deep, loamy, brick earth; and that this kind of land forms the principal part of the plantations in the eastern division of Kent, which is proverbially the great hop-growing county of England.

After the land has been properly cleared and prepared, dung is laid in the field in small heaps near the places where it is intended to plant the hops lips or root sets. The places are commonly marked off by a number of short stakes being driven into the ground at proper and equal distances from each other. Circular holes of about eighteen inches in diameter are then made by taking out the mould to the depth of about twelve inches. These holes are then partially filled with manure, upon which is placed the mould which had been taken out in the first instance; and in this way a series of small risings or hillocks are formed, generally at the distance of about six feet from each other. Planters differ in the mode of arranging the hills, some choosing to place them, with continuous regularity, in rows at equal distances, while others prefer planting in quincunx. On each of these hillocks, the sets or roots, to the number of five, six, or seven, are planted by means of a dibbling stick. One is placed on the top or centre of the hill, and the rest, at equal distances around it, being made to incline towards that in the centre. This business of planting is usually in February or March; but when bedded plants—or such as have pre-



[Hop Queen.]

viously been nursed one summer in a garden—are employed, the autumn is usually preferred.

After the plantation has received some common acts of attention, such as hoeing, weeding, stirring, manuring, and the young shoots being earthed up to strengthen them, the next important operation is that of setting the poles, which is usually performed as soon as the binds have sprung to the height of three inches above the surface of the ground, and this is commonly about the end of April or beginning of May. The poles are straight, slender shoots of underwood, ash, oak, chestnut, or willow, from sixteen to twenty feet high. Planters are by no means agreed as to the most advantageous number of poles on each hillock; but as a full and free admission of air, light, and sunshine is necessary to the health of the plants, it is evident that the poles should not be so crowded as to occasion much closeness. Three is the number most commonly preferred in practice, though more are occasionally employed, and sometimes only two. They are placed in such a manner as to leave the largest openings towards the south, to admit the sunbeams. The poles are generally fixed in the earth by means of a tool termed a crow, which is made of iron, and forms the holes to the depth of eighteen or twenty inches. Into these holes the root-ends are put, and then the earth is rammed so hard in about them that they very seldom alter from the position in which they are placed, unless by the operation of very violent gales of wind. They are made to lean outward, so as to prevent the binds from housing or interlacing above them. Mr. Loudon* mentions that wires of iron or copper have been used in the south of France as substitutes for wooden poles, but having seen a plantation treated in this way he is not disposed to think it an improvement.

After the poles are set, the next operation is that of tying the shoots or vines to them. This branch of the culture affords employment to a good number of persons, generally women, who tie the plants in several places with withered rushes, but so loosely as not to prevent them from easily advancing in their progress to the tops of the poles. When the vines have ascended out of reach upon the poles, proper persons go round with standing ladders, and confine all such as appear inclined to stray.

Hop-plantations require some years to come to perfection, and it is rarely considered advisable to take any produce from them the first year after they are formed, as by this means great detriment is likely to be done to the future produce which they should afford. There are modes of planting, however, (as in Suffolk,) which render the practice of taking produce in the first season not injurious. Also when bedded or root sets have been used in planting, a small produce may safely be taken in the first season, as such plants are then as forward as those from cuttings in the second season.

The time of hop-gathering is a season of great animation and interest, and the motley groups that assemble to this labour are most amusing. The proper time for gathering the hops is indicated by their giving a strong scent, and the seeds becoming firm and of a brown colour. This usually happens early in September. The operation varies in different districts. We give the following account of the process in the words of Mr. Loudon, as appearing to us the most simple and convenient:—

"As a preparation for pulling the hops, frames of wood, in number proportioned to the size of the ground and the pickers to be employed, are placed in that part of the field which, by having been most exposed to the influence of the sun, is the soonest ready. These frames, which are called bins, or cribs, are very simple in their construction, being only four pieces of board nailed to four posts or legs, and when finished are about seven or eight feet long, three broad, and about the same height. A man always attends the pickers, whose business it is to cut over the vines near the ground, and to lay the poles on the frames to be picked. Commonly two, but seldom more than three poles are laid on at a time. Six, seven, or eight pickers, women, boys, and girls, are employed at the same time, three or four being ranged on each side. These, with the man who sorts the poles, are called a set. The hops after being carefully separated from the leaves and branches, or stalks, are dropped by the pickers into a large cloth, hung all round withinside the frame on tenterhooks. When the cloth is full, the hops are emptied into a large sack, which is carried home, and the hops laid in a kiln to be dried. This is always done as soon as possible after they are picked, as they are apt to sustain considerable damage both in colour and flavour, if allowed to remain long in sacks in the green state in which they are pulled. In very warm weather, and when they are pulled in a moist state, they will often heat in five or six hours; for this reason the kilns are kept constantly at work both night and day, from the commencement to the conclusion of the hop-picking season."

When the crops are tolerably full, a good picker will separate from eight to ten bushels of hops from the binds in the course of a day; which, after being stoved or dried, generally weigh about a hundred weight. The work is sometimes done by the bushel. The price paid is exceedingly variable, depending less, however, on the goodness of the crops than the abundance or scarcity of labourers. The greatest part of the hops cultivated in England is picked by people who are in the habit of coming from Wales for the purpose every year. Our second wood-cut represents the hop-queen at the merrymakings of the hop harvest-home.

The process of drying hops is not materially different from that of drying malt, and the kilns are of the same construction. After the drying is completed, the hops are taken away from the kiln by a shovel and put into an adjoining apartment formed for the purpose, and called the stowage-room. Here they are kept five, six, or more days, as there may be occasion, before they are in a state proper to be put into the pockets or bags, as when they are bagged too soon they are brittle, and neither draw so good a sample nor weigh so heavy as otherwise.

Bagging the hops is the last operation the cultivator has to perform before sending them to market. In the floor of the stowage-room there is a trap-door, or round hole, equal in dimensions to the mouth of a hop-bag. The bag to be filled is let down this hole, and a man gets into it whose business it is properly to distribute and trample down the hops, which another man, who is on the floor, throws down, in small quantities at a time. The hops are thus packed very closely in the bags. The brightest and finest coloured hops are put into "pockets," or fine bagging, and the brown into coarse or heavy bagging. The former is chiefly used in brewing fine ales, and the latter by the porter-brewers.

The expense of forming a new hop-plantation is exceedingly heavy, being estimated in many districts at from 70*l*. to 100*l*. per acre. The duration of a hop-plantation on a good soil varies from fifteen to thirty years; but in general they begin to decline after the tenth year. The plant is subject to so many diseases, and is liable to suffer from so many casualties, or from seemingly slight inadvertencies in the management, that the produce is subject to very great fluctuation. In some seasons the produce of an acre amounts to twenty hundredweight, while in others it does not

* In his 'Encyclopædia of Agriculture,' to which we have been much indebted in the preparation of this Article.

exceed two or three hundredweight. In middling soils from nine to ten hundredweight are considered as fair average crops, and from twelve to fourteen as good ones. Upon the whole, hop-plantations are among the most expensive and uncertain of agricultural undertakings; although it would seem that the abundance and fine qualities of some seasons so far counterbalance the scarcity and badness of others, as to afford in general an adequate remuneration for the expense and trouble involved.

Idleness.—There is no greater cause of melancholy than idleness; no better cure than business, as Rhasis holds; and howbeit to be busied in toys is to small purpose, yet hear that divine Seneca,—"Better do to no end than do nothing."—*Burton's Anatomy of Melancholy.*

No Deformity in Nature.—I hold that there is a general beauty in the works of God, and therefore no deformity in any kind of species of creature whatsoever. I cannot tell by what logic we call a toad, a bear, or an elephant ugly; they being created in those outward shapes and figures which best express the actions of their inward forms. And having past that general visitation of God, who saw that all that he had made was good, that is, conformable to his will, which abhors deformity, and is the rule of order and beauty. There is no deformity but in monstrosity, wherein, notwithstanding, there is a kind of beauty; Nature so ingeniously contriving the irregular parts as they became sometimes more remarkable than the principal fabric. To speak yet more narrowly, there was never anything ugly or misshapen, but the chaos; wherein, notwithstanding, to speak strictly, there was no deformity, because no form, nor was it yet impregnant by the voice of God. Now Nature is not at variance with Art, nor Art with Nature, they being both servants of his providence.. Art is the perfection of Nature. Were the world now as it was on the sixth day, there were yet a chaos. Nature hath made one world and Art another. In brief, all things are artificial; for Nature is the Art of God.—*Sir Thomas Brown's Religio Medici.*

THE CLOSE OF AUTUMN.

To the naturalist the close of autumn is not without considerable interest. He beholds changes taking place in the animated beings around him, which enlarge his views of the economy of Nature, by affording him an insight into modes she employs for the preservation of animal and vegetable life during the severities of winter. In this point of view the close of autumn is as interesting as the opening of spring.

The changes exhibited in the vegetable kingdom scarcely come under our present design. As far, however, as they influence the operations of the animated tribes, we must not altogether pass them by. The leaves and the juices of plants afford nutriment to myriads of insects, which are themselves the food of birds. With the exception of the hardy, firm-leaved evergreens which endure through the winter, the vegetable tribes either pass into a sort of lethargy, or wither and perish. This death, whether temporary or permanent, cuts off the supply of food from hosts of insects, from some mammalia, and from some birds also, while the seeds and fruits which are now matured and are carried about by the winds, or have dropped upon the earth, or still hang in red clusters on the branches, afford a rich feast to mammalia and birds, as if by way of compensation. With the death of the vegetable world is linked the death or the torpidity of the insect world. Those which do not perish have retired into crevices, sought refuge beneath the bark of trees, or bored deep into the ground. Of the caterpillars which devoured the leaves, some have assumed a chrysalis condition, which will endure till spring, but not all; for many undergo their transformation before the summer is over, and leave their eggs only to be hatched into caterpillars on the return of the spring. The abundant supply of such kinds of insects as form the staple diet of our summer birds of passage fails; and this, independently of the cold which they are ill fitted to endure, renders our latitudes no longer a resting place for them. Where are moths and chafers for the goatsucker, gnats and flies for the swallow tribe and the fly-catcher? Unlike the red-breast or the hedge-sparrow, which brave our winters and cheer the gloom with their strain, and which though insectivorous, can accommodate themselves to a mixed diet, as is the case with the tits also, these birds and others, were they bound to our clime, must now inevitably perish. But the instinct which guided them hither from the southern regions, now prompts them to return. The swift, as it is one of the last to visit us, is one of the first to leave our shores; it has long since taken its departure. The multitudes of swallows, which we have seen in vast flocks, have left a few stragglers only to bring up the rear, the main body is already far to the south. It is singular that the swallow comes in flocks, disperses in pairs over the country; and again, previously to its departure, collects into flocks to take its migratory flight. On the contrary, the wheatears, though both coming and departing in multitudes, do not seem to act in concert. The pairs that are scattered over the country gradually move to our downs along the south-eastern part of our coast, till the ground is almost covered with them; but they do not move about in flocks, nor cross the Channel in a body; each bird acts for itself, and takes the opportunity most favourable to itself individually: numbers, it is true, take the same opportunity, and steer in the same track: the old males are the first to disappear, but we have seen multitudes of females and young males late in the season still on the downs, as if lingering ere the final step be taken. We suspect, indeed, that this is the case with most of our migratory summer birds; as the males come before the females, so do they precede both them and the young on their departure. We have seen numbers of the young and females of the red-backed shrike in Sussex at the latter part of autumn, when not a single adult male could be anywhere discovered.

Many circumstances conspire to prove that night is the time in which our migratory birds begin their journey; they seem to move by nightly stages, such at least do those whose powers of flight do not render them adequate, like the swift or swallow, to take a protracted journey at a stretch. To what part of the world do our summer visiters retire? is a question often asked, and not very easy in all cases to answer. It would seem, however, as far as the researches of naturalists have extended, that Africa is the place of rendezvous to which most direct their course. Senegal is said to be the winter retreat of the swallow, which, with quails, wagtails, kites, and some other birds of passage, are reported by M. Adanson to arrive there after the month of October. During the latter part of September and the beginning of October, myriads of swallows arrive at Gibraltar from the more northern portions of Europe, and migrate daily to the Barbary shore. Their course across the straits is not due south, but inclining to the west, that is, towards Cabrita point. They appear fatigued on their arrival, having most probably crossed the Bay of Biscay (we allude more particularly to such as leave our island), and traversed Spain, making very few halts upon the road. It is doubtful, however, whether all our birds of passage retreat to Africa; some probably (and it is perhaps more especially the case with such as dwell during summer on the north-eastern borders of Europe) take up their winter abode in the country between the Black and the Caspian seas; at all events, many of our birds have occurred in collections made in that locality.

Though the swallow and other birds of powerful wing traverse whole realms without much difficulty,—without needing rest,—such is far from being the case with all our migratory visiters, many of which are by no means remarkable for the rapidity or endurance of their flight. These proceed by stages,—they work their way by degrees,—they follow the sun; resting on various places for a longer or shorter period according to the abundance of food and the temperature of the atmosphere. *Migration*, then, is one of the means employed by Nature for the preservation of animal existence. These feathered beings, unable to sustain, fly from the severities of our northern winter. But there are many animals as little able to withstand the cold as our birds of passage, and from which the winter, in like manner, locks up all supply of food, but which cannot thus leave the winter behind:—how are they provided for? The bat, the hedgehog, the snake, the lizard, the frog, the snail, are in this condition. They hybernate,—they fall into a deep sleep, during which they require no food, and during which, though the vital spark be not extinct, the temperature of the body is reduced very nearly to that of the surrounding atmosphere. The torpidity of hybernation is the preservation of life to a large assemblage of animals. Hybernation is either partial or complete. Many animals, as the dormouse for instance, awake now and then from their trance, revived by a little sunshine, creep about, take food, a store of which they have laid up in reserve, and presently relapse into their quiet slumber. The bat indeed occasionally rouses, when a few warmer days than ordinary have occurred, and may be seen flitting in the air. With cold-blooded animals the torpidity is much more intense: the tortoise in the garden has buried himself in the earth, and will not make his re-appearance till the latter end of spring;—the snake and the lizard have retired to their lurking-places in the bank, beneath manure-beds, or stacks of brush-wood;—the toad has crept into his hole, and the frog and the water-newt have buried themselves deep in the mud at the bottom of the pond. The garden-snail has withdrawn into some crevice, and glued the rim of its shell tightly to the side of its recess;—the slug has plunged into the earth;—the worm has retreated from the surface, and bored into the ground beneath the reach of the frost. Hybernation, then, is the great resource of preservation to such animals as, not able to endure the cold of winter, nor procure a due supply of food during that season, are yet unable to migrate to warmer latitudes. We have mentioned the bat as one of our hybernating animals; several species certainly hybernate, but there is some reason to believe that one or two are migratory, passing perhaps to the southern portions of Europe to hybernate there. Hybernation is by no means peculiar to the animals of northern latitudes; the tanrecs (*centenes*) of Madagascar hybernate from April to November, that is, during the winter there, and are only active during the intense heat of summer.

If winter drives some animals to seek a snug retreat in which to doze away the months of cold, or drives others from our shores to seek a more congenial climate, it also brings a large train of visiters from regions yet more northerly than our own, by whose hardy frames our coldest weather is borne with ease and comfort. Our winter birds of passage, with an exception or two, consist of three distinct groups:—hard-billed birds, of the Insessorial order, such as the fieldfare, the siskin, the waxen chatterer, &c., which live on wild fruits, berries, &c.: birds of the Grallatorial order, which glean their sustenance in our morasses, swamps, and along the margin of the mouths of rivers and inlets of the sea, such as the sanderling (*arenaria calidris*), the turnstone (*strepsilas interpres*), the woodcock and the snipe: birds of the Natatorial order, such as the wild swan, the Brent goose, various species of ducks, the *mergansers*, &c. All these are driven by the intensity of the cold of an arctic winter to take a southward flight. The degree of latitude at which they terminate their journey depends much on the season; mostly, however, vast flocks content themselves with our middle latitudes, where the inlets of the sea and the mouths of rivers are never locked up by the frost, and where the hedges and coppices afford food and shelter. Many birds, stationary in our island throughout the year, as the thrush and the lark, are migratory in the higher regions of the continent; and hence it happens that every winter brings multitudes from the north to swell the numbers of our permanent residents. Among these we may notice the golden-crested wren (one of the *sylviadæ*, or warblers), which sometimes visits our island in numerous flocks. It feeds much like the hedge-sparrow (a permanent resident), upon the eggs and the larvæ of insects, which it searches for in the crevices of the bark of trees, and in similar situations, adding also berries to its diet. The woodcock and the snipe both breed with us, though not numerously, especially the former; but, as we know, immense flocks visit various parts of our country when the colder weather sets in. At this season, a north-east wind during the night will often bring in multitudes of woodcocks, where, the day before, not a single bird of the kind was to be discovered. Great bodies of woodcocks rest merely for a few days with us, and then proceed, by a nightly departure, still farther southward.

Besides the migrations of which we have been speaking, there is also a partial migration to be observed in many birds which never leave our shores. It consists in a departure from the interior of the country to the borders of the sea, or to the mouths of the larger rivers.

The golden plover (*choradrius pluvialis*), which breeds in the upland districts, mountains and high moorlands, spends the winter in flocks on the downs and the lowlands that border the sea; the same may be said also of the lapwing (*vanellus cristatus*), which draws towards the coast in winter. The beautiful king-fisher is another example; this bird, which frequents clear brooks and rivers, in the banks of which it rears its young, gradually migrates down the stream till it arrives near the river's *embouchure*, where it sojourns during winter, its food being here always attainable. We know one or two spots on a canal, not many miles from London, where a pair of king-fishers annually take up their summer abode; but where they are not to be found during winter.

The swift leaves us in August, but September and the early part of October constitute the busy period in which our summer birds of passage take their departure; the advent, however, of our winter visiters is irregular, and depends much upon the setting in of the cold in the northern regions; hence the early appearance of wild fowl indicates the approach of a severe season.

The few hints thus loosely put together, which we here offer to our readers, may induce some who have hitherto paid no attention to the subject to make records of the phenomena, within the sphere of their observation, which attend the closing year,—a plan in which they will not only find much rational amusement, but by which they will add materially to their general stock of information.

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NORMANDY.



[Farmer of Normandy.]

In consequence of the intimate connexion which subsisted between England and Normandy during the long period in which they were united under the same crown, the usages and manner of life of the present inhabitants of that province seem to have peculiar claims upon our attention. These claims are the stronger as it happens that they are a very primitive race, attached to old habits, old costumes, and all old things. This might enable us to discover circumstances in Normandy to which the origin of similar things in England may be traced, and other circumstances which the influence or example of England may have operated in producing. It is a pity that sojourners and travellers in Normandy have not furnished materials by which this most interesting view of the subject might be elucidated. They have however supplied a mass of information, some points of which may advantageously occupy three or four articles in the 'Penny Magazine,' each of which will be illustrated by a wood-cut.

Normandy is a country which in its general features has often been compared to England; and certainly there are sufficient points of resemblance to justify the comparison. The comparison holds in respect of climate, in the extent of undulating plains with few mountains, in the excellence of the pasture, and in common vegetable products. The climate of Normandy is rather drier, and has a little more warmth and steadiness of atmosphere, than that of England; but the same winds prevail, and produce the same effects, and the seasons are nearly similar. Agriculture is, however, in a comparatively backward condition, from the want of capital and the absence of improving example, rather than from any lack of ingenuity in the cultivator. The farms are small, and a much larger proportion of the population is dispersed over the country in small villages and petty places than in England.

The villages are mostly situated in bottoms, the cottages being built with mud and covered with thatch. In the great towns most of the houses are of wood and plaster. A great deal of timber runs upwards, downwards, and cross wise; the first story of the building projecting over the ground-floor, and the second-floor over the first, the roof being pointed with large stacks

of brick chimneys at each end. A traveller, who was in Normandy about eighty years since, makes a remark upon these houses which is worth transcribing: "Many of their old houses, when they are pulled down, have a great deal of chestnut-wood about them; and as there are no forests of chestnut-trees in Normandy, the inhabitants have a tradition that this wood was brought from England, and there are some circumstances which, when rightly considered, add strength to this tradition. Many of the old houses in England contain a great deal of this kind of timber. Several of the old houses in London, particularly the Black Swan Inn in Holborn, situated near Fetter Lane end, (which exceedingly resembles the houses in Normandy,) and many others in the neighbourhood; and most of the ancient houses in Cheshunt, in Hertfordshire, so named, as some etymologists tell us, from the quantity of chestnut-trees in that place, are built of this wood. There are also some woods and woody places in England called Chestnut-wood, particularly one near Sittingbourne in Kent, although no wood is now growing there. Many houses in Hertfordshire, Rutlandshire, and other counties of England, are of the same kind in figure and materials; and indeed Normandy does so nearly resemble Old England that the English traveller could scarce believe himself to be in France*." Time has diminished this resemblance, so far as the houses are concerned; for while houses continue to be built in Normandy as in former times, similar buildings of wood and plaster, with projecting stories are rapidly disappearing from our own towns, although a few still survive in London, and some in the older provincial-towns. A variety of the same species of house is mentioned by Mr. Dawson Turner. It consists of a frame-work of wood, with the interstices filled up with clay, in which are imbedded small pieces of glass, disposed in rows, for windows. The wooden sheds are preserved from the weather by slates, laid one over the other like the scales of a fish, along their whole surface, or occasionally by wood over wood in the same manner. At one end the roof projects four or five feet beyond the gable, in order to protect a doorway and ladder, or staircase, that leads to it; and this elevation has a very picturesque effect. A series of villages, composed of cottages of this description, occur on the road from Yvetot to Rouen, and may be seen in other parts. The gentry usually occupy houses of stone in the towns, such things as country-seats being rarely seen.

The farms, as already intimated, are rarely large, scarcely ever exceeding 100 acres. The buildings attached to the dwelling-houses on a farm are very extensive, as neither corn nor hay are ever stacked out of doors; but they are very indifferently built. The implements of agriculture are in a very primitive state; the ploughs are heavy, the harrows continue to have wooden teeth, the threshing-machine is not known, and the fan for winnowing corn has only partially been introduced. Nothing can be more simple than the mode of life at these farm-houses, and among the labouring population at large. Their food is bread, a few vegetables, and cider. Animal-food is never or very rarely used; but coffee and treacle are among the articles which they consume. The dress of the rural population is exceedingly plain, and has an antiquated appearance. This is true also of all the various classes of the population, except the gentry and affluent citizens, who live and dress much in the same way as Parisians of the same rank in life. Some of the peculiar costumes of the province will hereafter claim our notice more particularly.

Having mentioned cider as a common beverage, we may add that apple-trees are extensively planted in this province, both sides of the road being frequently lined with orchards for miles together. The plantations are generally in large open fields, in which the trees grow about fifteen feet apart. "The apple-tree and pear-tree in Normandy," says Mr. Turner, "far from being ugly, and distorted and stunted in their growth, as is commonly seen in England, are trees of great beauty, and of extreme luxuriance, both in foliage and ramification. The *Coccus*, too, which has caused so much destruction among our orchards, is still fortunately unknown here." The cider of Normandy is famous throughout France. It is chiefly produced in the western portion of the province, where scarcely any other beverage is used by the lower classes of the inhabitants. The cider of the first pressing is of a strong quality, but that of the second pressing is much inferior. The cider does not seem to be much relished by English travellers, who, however, are by no means agreed in the grounds of their distaste.

Another common object of cultivation in Normandy is flax. There are few farmers who do not raise more or less of it upon their grounds; and they get it carried through the different processes of manufacture by their family on their own premises. A stock of linen thus manufactured in general forms the chief portion, if not the whole, of a young woman's dowry; and it is therefore a great object with unmarried girls to accumulate as large a stock of it as they possibly can. This linen is of a coarse and strong quality, and forms the most general branch of manufacture in Normandy. Lace also is an important object of manufacture, and gives employment to a great proportion of the female population in different parts of the province. Men and women in Normandy generally marry young; but they never do so till they are in some regular employment. A labourer earns on an average 24*l*. a-year, on which he can subsist comfortably, according to his own ideas of comfort. If he has a wife and two children (say fourteen and eleven years of age respectively) able to work, he may get about 40*l*. a-year; these sums being understood to include every advantage and opportunity for making money which his situation affords.

Normandy is celebrated in France for its cattle; which is no doubt owing to the superiority of its pasture. The horses are of small size, with long tails, which are never docked; their strength is much greater than might be expected from their size. The asses and mules are larger than ours. The cows are small; but give a good supply of milk. Oxen are generally employed in ploughing. Sheep are abundant, and their flesh is good. Turner says, "Throughout this part of France, large flocks of sheep are commonly seen in the vicinity of the sea, and as the pastures are uninclosed, they are all regularly guarded by a shepherd and his black dog, whose activity cannot fail to be a subject of admiration. He is always on the alert and attentive to his business, skirting his flock to keep them from straggling, and that apparently without any directions from his master. In the night they are folded upon the ploughed land, and the shepherd lodges, like a Tartar in his *kibitka*, in a small cart, roofed and fitted up with doors."

Normandy supplies Paris with great quantities of cattle, corn, butter, and cider, as well as with its manufactures. Its extensive communications with the capital are carried on exclusively by land-carriage. The high roads, being kept in repair at the expense of the government, are broad and in good condition, being paved wherever the boggy character of the ground renders it expedient; but the bye-roads are here, as in other parts of France, in a very wretched condition, being very seldom repaired. The English eye, which is seldom easily pleased, is apt to be dissatisfied at the general absence of the hedgerows which in England line the roads and separate the fields. The extensive fisheries on the coast not only

* Tour in Normandy, 1764.

supply the wants of the province in fish, but leave a large surplus which is constantly transmitted to Paris in light carts that travel night and day. The habits and character of that extraordinary and simple race of fishermen who inhabit the suburbs of Pollet, near Dieppe, will require our notice on an early occasion.

THE SAPPHIRE GROT.

(*From Dr. Hogg's Visit to Alexandria, Damascus, &c.*, vol i, p. 18.)

In the 147th Number of our Magazine we gave a description of the island of Capri, and of the remarkable natural grotto that has been discovered there. That account was written by a gentleman who had frequently visited the island, but as the grotto was unknown in his time, he took a short description of it from Mrs. Starke's useful 'Guide to Travellers in Italy.' A fuller account has just appeared, and as the subject is interesting, (the grotto attracting many visiters to Capri who never thought of going there before,) and as the author has given a clear explanation of the phenomenon, we extract the passage for the benefit of our readers.

"The sapphire grot at the northern extremity of the island of Capri having only been lately re-discovered, of course excites considerable attention. The sole entrance to this remarkable cavern is a small semicircular opening, close to the edge of the water, at the base of an almost perpendicular cliff, which dips from a great height into the sea. In form it closely resembles the mouth of an oven, which it exceeds but little in size; yet immediately within it enlarges into a grotto of considerable dimensions, with an arched roof that spans, like a dome, a placid expanse of water of the deepest azure. A signal being made, a long narrow boat, specially constructed to convey visiters within the cave, pushes from the shore; but the entrance can only be effected when the weather is perfectly calm, and at the favourable moment of the reflux of the waves. The visiter now places himself below the edge of the boat, which two guides adroitly and speedily conduct through the narrow passage. He then finds himself in a spacious circular cavern, into which the direct rays of light only penetrate through the aperture by which he has entered; and this not being more than four feet either in height or breadth, the space within would be a mere gloomy and obscure recess, were it not distinguished from all other known caverns by the peculiarity which has conferred upon it the name of the Sapphire Grot. To understand this it must be remembered, that the entrance to this singular cave is to be considered as the apex of a subaqueous arch, springing on one side from the bottom of the sea, and on the other from a ledge of rock near the surface of the water. Thus the greater part of the light within is derived from the rays that pass through the blue waters of the surrounding ocean. By this denser medium some of these rays are intercepted and absorbed, while the remainder, refracted by passing through the water, and then reflected upwards from the bottom, diffuse a rich blue colour over the roof and sides of this beautiful grotto, which is finely varied in appearance by the direct rays that pass through the entrance, as they fall on the undulating surface of the waves within.

"The singular effect of light thus passing through an aqueous medium is here further illustrated by the shadow of the boat being thrown upon the roof of the cave, as well as by an experiment, easily made, of closing entirely the entrance of the grot, which increases the intensity of the rich cerulean tints that so conspicuously distinguish it. That portion of the cave which is filled by the sea, does not possess a width of perhaps more than seventy or eighty feet, yet the imagination is so powerfully aided by the blue aërial perspective, that it requires a positive exertion of the reasoning faculty to form a correct estimate of its real dimensions.

"At the farthest extremity of the cavern, a wide and shelving portion of rock affords a convenient landing-place, beyond which are some vestiges of steps. These appear to lead to the termination of a subterraneous entrance from the island, now obstructed with rubbish, and hitherto unexplored, as it cannot be supposed that the present opening to this remarkable grotto escaped the notice of the ancients, or that the imperial voluptuary, who sought with such avidity new sources of enjoyment, neglected, during his long residence here, the advantages presented by a cavern apparently designed by nature to contribute to royal luxury."

SEA TERMS.

(*From the Journal of a West India Proprietor, by M. G. Lewis.*)

Windward, *from* whence the wind blows;
Leeward, *to* which the wind blows;
Starboard, the *right* of the stern;
Larboard, the *left* of the stern;
Starboard helm when you go to the left; but when to the right, instead of larboard helm, *helm a-port*;
Luff you may, go nearer to the wind;
Theis (thus), you are near enough;
Luff no near, you are too near the wind;
The *tiller*, the handle of the rudder;
The *capstan*, the weigher of the anchor;
The *buntlines*, the ropes which move the body of the sail, the *bunt* being the body.
The *bowlines*, those which spread out the sails and make them swell.
Ratlines, the rope ladders by which the sailors climb the shrouds;
The *companion*, the cabin-head;
Reefs, the divisions by which the sails are contracted;
Stunsails, additional sails, spread for the purpose of catching all the wind possible;
The *fore-mast*, *main-mast*, *mizen-mast*;
Fore, the head;
Aft, the stern;
Being pooped, having the stern beat in by the sea;
To belay a rope, to fasten it.
The *sheets*, a term for various ropes;
The *halyards*, ropes which extend the top-sails.
The *painter*, the rope which fastens the boat to the vessel.

Tests of Folly.—Æneas Sylvius, amongst many others, sets down three special ways to find a fool by. He is a fool that seeks that he cannot find: he is a fool that seeks that, which, being found, will do him more harm than good: he is a fool that having variety of ways to bring him to his journey's end, takes that which is worst. "If so," says Burton, "methinks most men are fools." The first test, however, is a very bad one, in our opinion; for how is a man to know that a thing is not to be found until he has sought for it; and a man in seeking what is not to be found, often finds something as good or better than that which he sought.

Anxiety of a Mother for the Education of her Children.—The truth of the following anecdote comes within my personal knowledge. A few years ago a poor woman, in a small village on the west coast of Scotland, was, by her husband's death, left dependent on her own exertions for the support of herself and four children, the eldest of whom was about eleven years of age. Unable to bear the expense of educating each in the customary way, and yet eager that they should be instructed, she bargained with the village schoolmaster that for the price of teaching one, he would allow two to attend the school alternately, one on the one day, and the other the next; by this ingenious device she procured for both of them the invaluable blessing of education, and furnished a striking instance of the honourable shifts by which the poor can acquire for themselves advantages which are seemingly beyond their attainment.—*Duncan's Travels through Part of the United States and Canada.*

THE ROSE-GARDEN OF SAADI.



[The Dog and the Shadow.]

Having, on a previous occasion, noticed the history of the fables of Bidpai, in Persia, it does not seem desirable to proceed to the apologues of another country until we have noticed that extraordinary and characteristic collection of poetry and prose,—of fables, tales, and apophthegms,—called the *Gulistan*, or 'Rose-garden;'—a work which is intensely admired wherever the Persian language is spoken, and which is known far beyond the limits of that tongue, having been translated into various European languages, and, among the rest, into our own. We have a complete translation by Mr. Gladwin, and translations of parts by various hands. The author seems to have been conscious that his work was destined to last. After having alluded to the fact that the physical rose-garden is of transitory duration, he says—"I am able to form a book of roses which will delight the beholders, and gratify all who are present; whose leaves the tyrannic arm of the autumnal blasts can never affect, nor injure the blossoms of its spring. What benefit will you derive from a basket of flowers? Carry a leaf from my garden. A rose may continue in bloom for five or six days, but this rose-garden will flourish for ever."

In an European author, this would not be a modest appreciation of his own powers; but modesty is not a virtue expected in an Oriental author; and in this instance the merit of the work, combined with the fact of its continued and increasing popularity after a lapse of more than six centuries, seems sufficiently to warrant the terms in which he speaks of his own production. The work consists of a great number of tales, fables, and conversational anecdotes, many of which are very fine, and all written with exquisite beauty of language, to which no translation can do justice. These are profusely interspersed with beautiful maxims and admirable moral precepts, mostly conveyed in verse; giving to the whole the semblance of one of those rich and beautiful mosaics which are numbered among the most exquisite productions of Persian art.

The name of the author was Saadi, a native of the city of Sheeraz. There is no literary name in this country—not even that of Shakspeare—the popularity of which admits of the least comparison with that of this author in Persia. His name and his sayings are as household words throughout the nation—from the king on his throne to the muleteer by the wayside. The latter in answering your remonstrances, and even the beggar in soliciting alms, will give utterance to some appropriate passage from the Gulistan; and probably would, if he were asked,—and will often without asking,—repeat verbatim the stories and anecdotes which it contains. In fact, to be instructed in this work forms an essential part of education; and even those without education contrive to get their memories stored with choice passages from this moralist, and from the lyrical poet Hafiz. There is no estimating the degree of influence which this practice has had in preserving some degree of refinement and right feeling in Persia throughout all the barbarous and debasing circumstances with which its history is replete; and there is no question that the intimate acquaintance which the princes of that country are made to form very early in life with the often bold and honest morality of Saadi, has had much effect in subduing the natural intoxication of absolute power, and in softening that hardness of character and feeling which it is calculated to produce. It is only in such a country as Persia that the influence of such an author as Saadi, and of such a work as the Gulistan, can be well estimated; and it is perhaps only in such a country that the same degree of influence could have been acquired.

Our space will not at present allow us to notice the

personal history of Saadi, which is curious and interesting.

The Gulistan is divided into eight chapters, on the following subjects:—1. On the morals of kings. 2. On the morals of dervises. 3. On the excellency of contentment. 4. On the advantages of taciturnity. 5. On love and youth. 6. On imbecility and old age. 7. On the effects of education. 8. Rules for conduct in life.

In furnishing a few extracts from the translations of the Gulistan, it is necessary to premise that the verse of the original is included in the prose of the translation, without being distinguished from it. It is no small merit of Saadi, that his style, although sufficiently ornamented, is simplicity itself, compared with that highly embellished accumulation of figurative expressions, which is considered in Persia at the present day as the crowning merit of literary composition. The following apologue, on the benefit of good society, may be quoted as a fine illustration of the simplicity we mention.

"One day as I was in the bath, a friend of mine put into my hand a piece of scented clay. I took it, and said to it, 'Art thou musk or ambergris, for I am charmed with thy perfume?' It answered, 'I was a despicable piece of clay, but I was some time in the company of the rose, and the quality of my sweet companion was communicated me; otherwise I should only be a bit of clay, as I appear to be.'"

The following story is also related in the histories of the great and wise monarch to whom it relates, and seems with other instances to show that Saadi collected his anecdotes and illustrations from all quarters, —from reading, from personal experience, and from imagination. The value of the lesson it inculcates will be well understood by those who are acquainted with the actual state of Persia, the practices against which it is levelled being still but too prevalent.

"It is related that Nousheerwan, being at a hunting-seat, was about to have some game dressed, and as there was not any salt, a servant was sent to fetch some from a village; and the monarch ordered him to pay the price of the salt, that the exaction might not become a custom, and the village be desolated. They say unto him, 'From this trifle what injury can arise?' He replied, 'Oppression was brought into the world from small beginnings, which every new comer has increased, until it has reached the present degree of enormity. If the monarch were to eat a single apple from the garden, the servants would pull up the tree by the roots; and if the sultan orders five eggs to be taken by force, his soldiers will spit a thousand fowls. The iniquitous tyrant remaineth not, but the curses of mankind rest on him for ever.'"

This was bold in such a country as Persia, and there are much bolder things than this in the Gulistan. The following is from the same chapter. It will in some degree account for the feelings of the Persian slave to recollect that the Persians almost universally regard the sea with dread and aversion.

"A king was sitting in a vessel with a Persian slave. The boy having never before seen the sea, nor experienced the inconvenience of a ship, began to cry and lament, and his whole body was in a tremor. Notwithstanding all the soothings that were offered he would not be pacified. The king's diversion was interrupted, and no remedy could be found. A philosopher who was in the ship, said, 'If you will command me, I will silence him.' The king replied, 'It will be an act of great kindness.' The philosopher ordered them to throw the lad into the sea, and, after several plunges, they laid hold of the hair of his head, and dragging him towards the ship, he clung to the rudder with both his hands. When he got out of the water he sat down quietly in a corner of the vessel. The king was pleased, and asked how this was brought about. The philosopher replied, 'At first he had never experienced the danger of being drowned; neither knew he the safety of a ship.' In like manner, he knoweth the value of prosperity who hath encountered adversity. O thou who hast satisfied thine hunger, to thee a barley-loaf is beneath notice; that seems loveliness to me which in thy sight appears deformity. To the nymphs of paradise purgatory would be hell; but ask the inhabitants of hell whether purgatory is not paradise."

The next, which is from the second chapter, conveys a very useful lesson, and is also interesting for the personal anecdote it contains.

"I remember that in the time of childhood, I was very religious: I rose in the night, was punctual in the performance of my devotions, and abstinent. One night I had been sitting in the presence of my father, not having closed my eyes during the whole time, and with the holy Koran in my embrace, whilst numbers around us were asleep. I said to my father,—'Not one of these lifteth up his head to perform his genuflexions; but they are all so fast asleep that you would say they are dead.' He replied, 'Life of your father, it were better if thou also wert asleep than to be searching out the faults of mankind. The boaster sees nothing but himself, having a veil of conceit before his eyes. If he was endowed with an eye capable of discerning God, he would not discover any person weaker than himself.'"

Our next extract is from the third chapter, on Contentment. The lesson it teaches is one of those universal truths which every man under the sun might study with advantage.

"They asked Hatim Tai if he had ever seen or heard of any person more noble-minded than himself. He replied:—'One day, after having sacrificed forty camels, I went along with an Arab chief to the skirt of a desert, where I saw a labourer who had made up a bundle of thorns. I asked him why he did not go to the feast of Hatim Tai, to whose table people were repairing in crowds? He answered, 'Whosoever eateth bread from his own labour will not submit to be under obligation to Hatim Tai.' I considered this man as my superior in generosity and liberality."

Our next extract is from the sixth chapter, and, like a former passage, contains a personal anecdote equally candid with that containing the reproof which Saadi received from his father. In this he is feelingly reproved by his mother.

"One day, through the ignorance of youth, I spoke sharply to my mother, which vexing her to the heart, she sat down in a corner and wept, saying, 'Have you forgotten all the trouble that you gave me in infancy that you treat me with this unkindness? What a good saying was that of an old woman to her son, when she saw him able to subdue a tiger, having the strength of an elephant!—If you had but recollected your time of childhood, when you lay helpless in my arms, you would not treat me with violence, now that you have the strength of a lion, and I am an old woman.'"

The following tale is often quoted by the Persians, and the reason for this must be found in the frequent occasion there must be in daily life to inculcate the moral and make the application:—

"A little man, being struck with a pain in his eyes, went to a farrier, desiring him to apply a remedy. The farrier applying to his eyes what he used to administer to quadrupeds, the man became blind, upon which he complained to the magistrate. The magistrate said, 'Get away; there is no plea for the damages; for if this fellow had not been an ass, he would not have applied to the farrier.' The application of this story is, that whoever employs an inexperienced person on a

weighty matter, besides suffering repentance, will, in the opinion of the wise, be considered of a weak understanding. The wise man, of enlightened mind, intrusts not an important business to one of mean abilities. The mat-maker, although a weaver, yet is not employed in the silk-manufactory."

The eighth and last chapter consists chiefly of miscellaneous advices, which would not well come under the previous heads. We can only quote from this part the following anecdote, which affords a pleasing illustration of the docility and prudence of the camel.

"It is well known that if a child lays hold of the bridle of a tractable camel he may be led a hundred parasangs without being in the least disobedient: but if the road becomes dangerous and threatens death, and the child, through ignorance, wants the camel to go that way, he slips the bridle out of his hand, and will not obey him any longer; because in the time of danger courteousness is a crime."

These extracts will serve to give the readers of the 'Penny Magazine' some idea of the character of one of the principal classical works of the Persian nation, than which there is probably no work in existence which has had a more abiding and active influence in correcting that which is bad, and improving that which is good, in the character and feelings of a people.

Our present wood-cut is an illustration of the well-known and useful fable of the 'Dog and Shadow.' We give the quaint old version which we find in the edition of 1658.

"He that coveteth other men's goods, he often loseth his own: whereof Esop relateth this fable. In time past there was a dog which went over a bridge, and held in his mouth a piece of flesh: and as he passed over the bridge he beheld the shadow of his own self, and of his piece of flesh within the water; and he, thinking that it had been another piece of flesh, forthwith he thought to have taken it; and as he opened his mouth, the flesh fell into the water, and thus he lost it. Right so is it with many an one; for when they think to rob another, they lose that they have of their own."

LITTLE THINGS.

ALTHOUGH this is an apparently insignificant title, yet it embraces a field of such extent and importance, that it may well be approached with diffidence and anxiety. The mind of the writer, however, having been, on many occasions, deeply impressed with the subject, and never having seen it expressly dwelt on by any author, he feels impelled to lay before the readers of the 'Penny Magazine' what has occurred to him in relation thereto.

Things small in themselves are often great in their consequences.—Inattention to this truth has led, especially in less civilized periods, to the ridicule or neglect of many both of the subjects and instruments of knowledge, and to the consequent retardation of the progress of knowledge itself. The smallness and seeming insignificance of the objects of examination appeared to be sufficient reasons for treating them as utterly unavailing towards any useful purpose. The cochineal insect and the silk-worm egg are in themselves insignificant enough, yet are they the source of employment and wealth to multitudes. The same erroneous view of things caused, and still causes, those who employ a portion of their time in attending to such matters to be despised as weak persons by the uneducated and the unreflecting. There is no show, nothing to strike the imagination, about their pursuits. The path to knowledge, however, consists of a long series of slow and painful steps, which must be successively trodden. The brightest achievements of science—those which arrest the attention of the most careless and uncultivated—are the offspring of slight observations recorded in the course of centuries—of failures and even of errors innumerable. Such, indeed, is the condition and imperfection of the human mind, that even the most absurd views and opinions have frequently led to the discovery of highly important truths, while solemn and imposing systems, fair enough to look upon, have served only to lengthen the reign of error. Witness the labours of the alchemists in search of the philosopher's stone; labours insane in themselves, but which through the incidental, though at the time disregarded, discovery of many truths relating to the nature and properties of substances, have become the parents of modern chemistry with all its wonderful power. On the other hand, one of the great impeding causes of the progress of science and true philosophy was the neglect of *little things*—a neglect of the observation of humble facts, and substituting in lieu of them regularly-built systems, becoming "the dignity of human nature," as was said. The great characteristic of modern philosophy, and that by an attention to which knowledge has in our own times made such rapid progress, is a zeal in collecting facts, and a determination to deduce theories from them, instead of adapting facts to ready-framed theories. All the great improvers of science have been distinguished by a vast faculty of observation. Newton was pre-eminently so. The story of the falling apple will be readily recollected.

In perusing a modern work of credit on any branch of knowledge, we are struck with the clearness of statement, with the accumulation of facts brought to bear on the subject, in short, with the general luminousness and utility of the treatise. For a few shillings we obtain an inestimable practical guide. Towards this result the labours of 100,000 individuals probably have contributed, from the humble collector of weeds by the wayside to the ablest professor in the highest walk; and these, too, extended through a period of many ages. Could the whole long-continued process by which such a work has been at last produced be at a glance placed before the mind's eye, we should be overwhelmed with astonishment, and penetrated with regret and shame if we have been hitherto numbered among the deriders of *little things*. The same may be said of the great results of science and art. Could the progress of any science, now far advanced towards perfection, be traced backwards, the multitude of small and gradual accessions, and the trivial occasions of many of them, would confound the most reflecting.

Every one can feel both surprise and admiration at witnessing the progress of a steam-vessel advancing rapidly against the opposing forces of both wind and tide; yet there are few who duly appreciate observations such as that which gave the first hint of the mighty power of steam, namely, plunging into cold water an inverted bottle, (which had been just emptied of wine, and then by chance placed very near the fire,) from which steam was then observed to issue. Many a present admirer of the steam-vessel would laugh at the observer of any similar fact. Steam, however, is but one—the principal, no doubt—among the many requisites for such an admirable machine. The ship-builder, the iron-founder, the cordage-manufacturer, the growers of timber and hemp, the navigator, in short a countless list of contributors might be named, whose services are indispensable, and an improvement in any one of whose branches tends to the greater perfection of the steam-vessel, or to reducing the expense of the accommodation afforded by her to the public, or to both these objects. Almost every great machine now in use was at first so inferior, that its first form would now be thrown aside with contempt,

From such a view only of the subject can we justly estimate the importance of *little things*.

Persons not much accustomed to such inquiries, and whose occupations are not connected with any walk of science or literature, frequently believe, with much sincerity, that learning and knowledge generally, except what directly bears on the particular pursuit of the individual, are useless. *Cui bono?* say they. Of what use is it? They are not aware that all branches are connected together, more or less intimately, and that the philosopher in his study is preparing employment for the operative man in the manufactory or workshop—that he is in fact contributing to the stock of comforts and benefits enjoyed by mankind. If a brewer, for example, had been shown 200 years ago a little coloured liquid moved up and down in a tube by the expansion or contraction of the air within, as the hand might be applied or removed, and had been told that at some time such an instrument might be found useful in his business, he would have thought the speaker mad. Yet this was the first thermometer, without which his business, and many others, could, at present, hardly be carried on. The indirect effect of observations and consequent discoveries, is indeed equal at least to their more immediate results. "The hand cannot say to the foot, I have no need of thee." Lemon-juice enables us to circumnavigate the globe. It is useless for navigation, but is found to be an effectual preventive of the sea scurvy. The discovery of preserving provisions fresh for a length of time by putting them ready-cooked into vessels from which air is excluded, is of nearly equal importance for the same purpose. Yet without the air-pump we should probably have remained without the latter. The observer of any physical fact, or the discoverer of any physical truth, cannot even guess what effect his labours may have on branches apparently the most remote*. The term star-gazer is, or was, one of popular ridicule; yet the art of the star-gazer, or astronomer, is essential to navigation, and consequently to commerce. But for his long-continued labours, seamen would be incapable of guiding their vessels over the ocean, and of thus exchanging the produce of one country for that of another. Many a rich merchant and manufacturer owe their fortunes to the star-gazer. The chronometer, the greatest present, next to the compass, ever made by science to navigation, is the child of star-gazing. And here one might fill a number of the 'Penny Magazine' in showing how many branches are required for the completion of the chronometer, and how many slight observations made by persons whose pursuits were wholly unconnected with that instrument have tended materially to its present state of excellence, and therefore to the extension of commerce. Yet as the visionary labours of the alchemists laid the foundation of modern chemistry, so astronomy was for ages supported and advanced solely for the purposes of still more visionary judicial astrology. So extraordinary is the course of human events!

Mining again, which contributes so largely both to the benefit of mankind and to the fortunes of individuals, depends for its success in rendering metals cheap and accessible on a host of little things operating through the numerous branches which bear upon it. The assayer, or practical chemist, ascertains the nature and qualities of mineral ores. The mineralogist, who goes round with his hammer in quest of specimens, as well as the scientific chemist, have however preceded him. As the study spreads and becomes popular, individuals in different districts set themselves to examine the minerals of their respective neighbourhoods. Should they travel, they still continue their researches. Thus discoveries are made, which would have escaped the mere miner, but which tend most materially to furnish employment for labourers, the means of accumulation to the frugal, and conveniences for all. "Deliver us from cobalt and spirits!" was once a miner's petition in the German liturgy. Copper-ore, under the name of *poder*, was within 200 years thrown away as refuse by the Cornish tinner. Manganese within thirty years past has been used in England for the repair of roads, while at the same time considerable quantities of it were being imported from Germany for the use of manufacturers. The scientific man has taught the miner to recognise and know the value of all these substances, and the latter no longer seeks to be delivered from them. The ores of various metals have indeed been discarded as rubbish by the working miner on many occasions. A mine is worked for a particular mineral. In the course of the operations some other mineral, more valuable perhaps than the original object of search, is discovered. Being unknown to the workman it is rejected with other waste. By-and-bye some mineralogist comes round picking up "bits of stone" here and there, and is astonished to find a valuable ore treated as refuse. On inquiry it turns out that the miners were ignorant of both its name and importance. In England the application of coal for smelting, and of steam for blast-furnaces, form two grand epochs in our mining history, yet from what slight circumstance did both originate!

Should an unreflecting person be asked what is the first step towards obtaining a loaf of bread, he would probably answer—"To get a shilling," or some equally inadequate reply would be given. The first step in reality is that a tree should be planted, either by the hand of nature or of man. Thence is obtained a material for the hoe or plough, and also for the miner, whose art, together with those of the carpenter, the smelter, the founder, the smith, the road-maker, the navigator, the natural historian, the chemist, the mineralogist, and finally the practical agriculturist, with many others, is essential to the production of good and cheap bread. Every little thing, therefore, which improves any one of these branches contributes so far towards the production of a loaf of bread.

Even those pursuits which appear to be most remote from the common arts of life and the employments of the operative labourer, often bear essentially thereon. Thus the classical scholar of the fifteenth and following centuries, by his labours in hunting out and preparing for the press dusty manuscripts, placed before mankind good editions of the ancient Greek and Latin authors. The perusal of these models was the commencement of modern civilization. It produced or fostered that state of mind which is favourable to an enlightened observation of the phenomena of nature, and to the cultivation of science generally. These have been already shown to be intimately connected with the common arts of life. The cultivation of letters also draws men off from warfare, once almost the only occupation of the rich, and gives them other pursuits. It leads nations to value the arts of peace: it tends, too, to explode those absurd prejudices which have so seriously injured mankind, and which too often arm them against each other and their own interest. To the formation of enlightened legislators the improvement of the mind through books and observation is essential; and it is almost needless to observe, that wise laws (among which must be included the absence or repeal of foolish ones) are indispensable to the profitable exercise of industry. The astronomer, again, by foretelling eclipses accurately, and by explaining the true nature of comets

* Berthollet in 1786 little anticipated that his discovery of a salt of potash would give rise to percussion locks. Equally unprepared was the chemist, who first observed a violet-coloured substance (iodine) in some experiments on sea-weed, to imagine that it would in a few years be considered important in medicine

and other celestial phenomena, has helped to deliver men from those terrors so common in ignorant ages, and of which the serious practical effects are well known to every student of history. Even the antiquarian and the metaphysician also contribute their share of practical usefulness.

It may be instructive to enumerate, with a few comments, some of those *little things* which have had a marked influence on the destinies of mankind, and which have, by their consequences, changed for the better the course of human affairs.

That property of the loadstone by which it points north was discovered in the eleventh century. The observation of this apparently trifling matter has led to the whole course of modern navigation and maritime discovery. Neither American nor Australian colonies could have afforded a resource for a superabundant population but for this. Tea, coffee, sugar, tobacco, and how many other articles have been hereby rendered accessible to all classes, while nations have been enriched by the traffic in them! To take a higher view of the subject:—the way has thus been opened for sending missionaries, as the heralds of Christian truth and all its attendant blessings, to heathen nations.

The art of printing, probably the parent of more good than all others, owes its origin to rude impressions taken (for the amusement of children) from letters carved on the bark of a beech-tree. This was a slight matter, which thousands would have passed over with neglect.

Gunpowder was discovered from the falling of a spark on some materials mixed in a mortar; or perhaps we should rather say that artillery was the consequence of this spark, and the due observation of the circumstance. Some persons may not consider this discovery to be any great advantage. To this, however, aided by the arts of the miner, the founder, the chemist, the mathematician, and others, we owe that perfection of modern artillery which preserves Europe from the irruptions of barbarians, so fatally destructive during a long period, and by which her surface became almost a desert. Uncivilized warriors cannot long compete with artillery scientifically directed. Internal order has also been obtained by the same means, since no person, however powerful, can now hope to resist the government of his country, and make spoil of his peaceful neighbours; whereas, before the invention of artillery, great subjects often fortified their castles with success against their sovereign, and disturbed public order. The nobility of Europe at that time never abstained from warfare on each other, and consequent rapine, but at certain seasons, or on certain days of the week. Thus, by the change introduced through gunpowder, those pursuits have been protected which require security for their exercise, and to which we owe all the wealth and conveniences of modern times. Warfare, as it is now carried on between nations, is a trifling evil, when compared with the state of things before the invention of artillery.

The stupendous results of the steam-engine may all be traced (as noticed above) to an individual observing steam issuing from a bottle just emptied and placed casually close to a fire. He plunged the bottle-neck into cold water, and was intelligent enough to notice the instantaneous rush which ensued from this simple condensing apparatus.

Electricity was discovered by a person observing that a piece of rubbed glass, or some similar substance, attracted small bits of paper, &c. Galvanism again owes its origin to Madame Galvani's noticing the contraction of the muscle of a skinned frog, which was accidentally touched by a person at the moment of the professor, her husband, taking an electric spark from a machine. He followed up the hint by experiments. Pendulum clocks were invented from Galileo's observing the lamp in a church swinging to and fro. The telescope we owe to some children of a spectacle-maker placing two or more pairs of spectacles before each other, and looking through them at a distant object. The glimpse thus afforded was followed up by older heads. The barometer originated in the circumstance of a pump, which had been fixed higher than usual above the surface of a well, being found not to draw water. A sagacious observer hence deduced the pressure of the atmosphere, and tried quicksilver. The Argand lamp was invented by one of the brothers of that name having remarked that a tube held by chance over a candle caused it to burn up with a bright flame—an effect before unattainable, though earnestly sought after. Without the Argand lamp, light-houses (to pass over minor objects) could not be made efficient, and on the importance of these it is needless to dwell.

Every one can now appreciate the importance of the slight matters above referred to, because the great results are before the world. Yet we know that the observers of them were, for the most part, treated with ridicule or contempt at the time. We know also that any failure in similar experiments is too often regarded with malicious delight. Since such great discoveries have been made from the due observation of trifling accidents, we should encourage, instead of despising, those who notice the phenomena of nature under all circumstances, however unimportant some of them may appear. In the small building which was once Peter the Great's workshop in Holland, is the inscription "Nothing is too little for the attention of a great man."

It may be objected by the reader that these remarks relate to the cultivation of knowledge generally, of which he well knows the importance, and wonders to hear *little things* so much dwelt on. But it is plain that science and the arts depend for their progress on the observation of many small matters; on an attention to obscure and often trifling objects and occurrences; and that he who throws ridicule on these, does in effect, as far as his influence may extend, deprive men of the numerous advantages for both body and mind which the cultivation of knowledge affords.

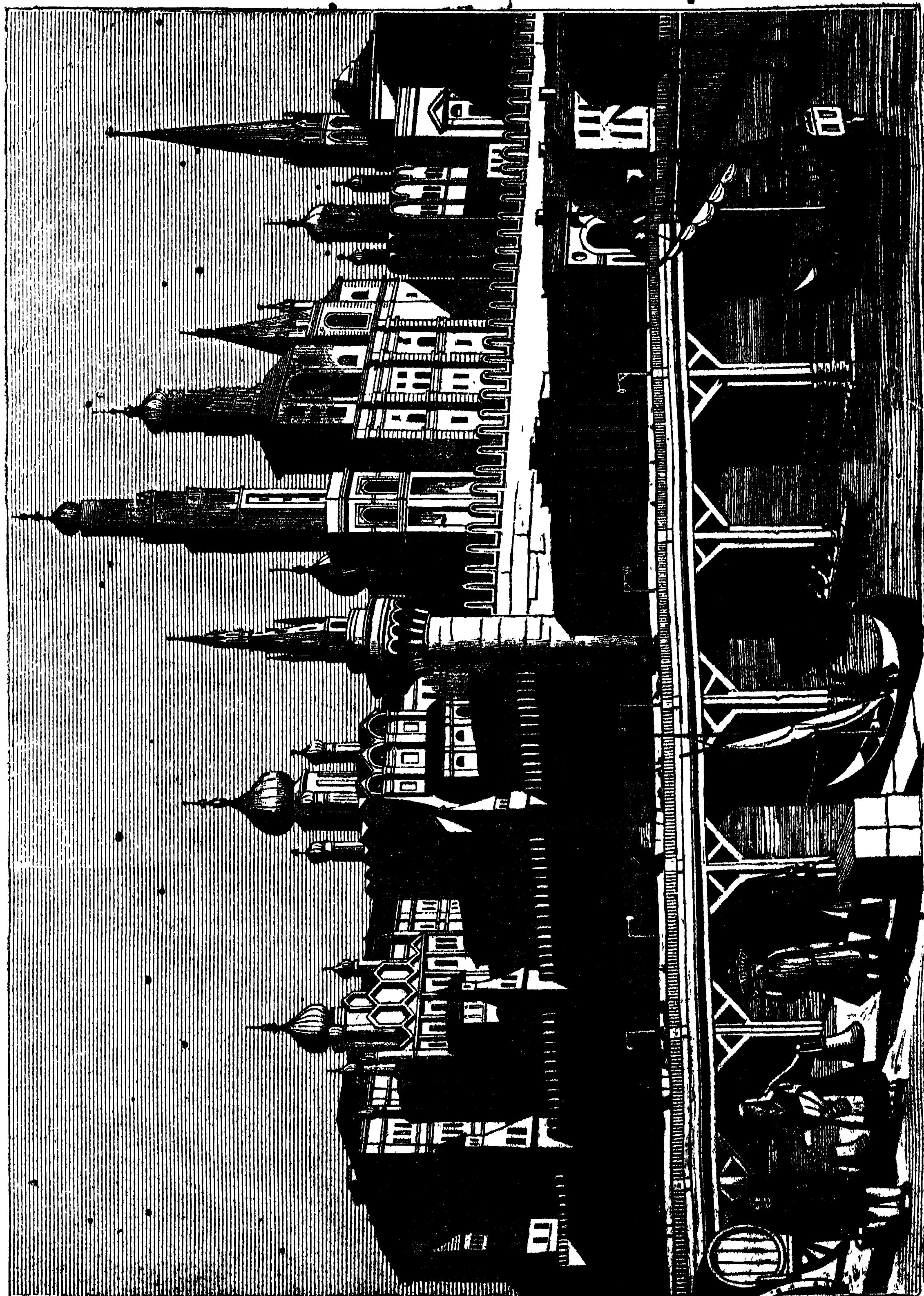
Newspapers.—Plutarch notes that the country people were very busy in inquiring into their neighbours' affairs. The inhabitants of cities thronged the court and other public places, as the Exchange and Quays, to hear the news. The old Gauls were very great newsmongers; so much so, says Cæsar, that they even stopped travellers on this account, who deceived them, and thus brought error into their counsels. Juvenal notices the keenness of the Roman women for deluges, earthquakes, &c., as now, for wonders and private matters. Merchants and purveyors of corn, as now stock jobbers, used to invent false news for interested purposes. It was not uncommon to put the bearers of bad news to death. In the middle ages pilgrims and persons attending fairs were grand sources of conveying intelligence. Blacksmith's shops, hermitages, &c., were other resorts for this purpose, in common with the mill and market. Great families used to pay persons in London for letters of news. In London, as St. Paul's Church was the great place of advertising, so it was also for news. In Nichols's Progresses, a gentleman says, "that his lackey had not walked twenty paces in Pawles, before he heard that sundry friends of his master had taken leave at court, and were all shipt away." Servants were sent there on purpose to fetch news. Of the introduction of newspapers by the Gazetta of Venice everybody has read. Herbert calls the 'Siege of Rhodes,' by Caxton, "the antientest Gazette in our language:" but to prevent the mischief of false alarms, through the Spanish Armada, the first newspaper, styled 'The English Mercury,' then, as afterwards, in the shape of a pamphlet, appeared in the reign of Queen Elizabeth.—*Fosbroke.*

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THE CAPITALS OF RUSSIA.



[The Kremlin and the Moskvaretskoi Bridge, Moscow.]

Moscow and St. Petersburg are commonly distinguished as the ancient and the modern capitals of the Russian empire; and in speaking of them it may be convenient to adopt that distinction. But in truth Moscow is still a capital; and therefore we might more correctly describe those cities as two capitals of the same empire,—Moscow being the natural and centrical metropolis, while Petersburg has been made, by constraint on man and nature, the capital of state and circumstance. Petersburg is, as it were, the drawing-room of the nation, "planned, furnished, and adorned to impress strangers with such an idea as it is desired they should entertain of the owner's taste and magnificence; and although similar considerations have operated in so modifying Moscow as to impair its proper originality, yet still it is the characterising capital of the nation, or, to pursue the metaphor, the national homestead—the parlour, the sitting-room; where only we can intimately acquaint ourselves with the real tastes, habits, and pursuits of the occupant.

But in whatever point of view Moscow and Petersburg be considered, they are both, although in different ways, among the most remarkable cities in the world. The writer of this paper has seen them both, and seen other cities also, and he cannot say that there are any, Constantinople always excepted, which, in all their circumstances of contrast and position, have impressed equally distinct images on his mind. They both stand apart and alone as peculiar things which it were futile to compare with any other. It would be useless and unsatisfactory to attempt a detailed and formal account of Moscow and St. Petersburg in a Supplement of the 'Penny Magazine;' and it will therefore be our best course at present to glance at the leading facts connected with the origin and progress of each city, and then to furnish such general views of their present aspect and condition as may enable the reader to form a practical idea of Moscow and Petersburg, whether considered separately or relatively with regard to each other. This course is also the most desirable, because it will thus be left open to us on some future occasions to consider the more remarkable objects, institutions, and customs of those great cities, either as separate subjects or as comprehended in subjects applicable to the country at large. In following the course indicated, Moscow will naturally claim our first attention, not only as the oldest and more peculiarly Russian city, but as that which is by many degrees more interesting to a stranger than the modern proud and stately capital. But it seems to us of the very first importance that definite ideas should be entertained concerning the origin and history of every capital city which may come under our notice, inasmuch as every such city is in itself a condensed and progressive representation of the nation to which it belongs. Were we to give full effect to this impression, the whole of the present Supplement would be occupied with historical statements; and as this is not intended, we intimate the impression merely to account for what would otherwise seem the disproportionate quantity of historical matter which this Number will contain. It was also desirable to dispose of such matters at once, as they can less conveniently be resumed than the specific details which may at any time be taken up, and which will be the better understood from the historical and other general statements which are furnished in the present instance.

ANCIENT CAPITALS.—Although Moscow is called the ancient capital with respect to St. Petersburg, it is, in chronological order, but the fourth of the five cities to which the metropolitan dignity has been successively annexed. The first was Novgorod, near the lake Ilmen, which is connected, by the river Volkhof, with the lake Ladoga, and is only 100 miles south by east from the present metropolis. This was a town of great commercial importance, and the original Slavonian metropolis, before the annals of the Russian monarchy commence, about the middle of the ninth century. Previously to this time the coasts of the Baltic were occupied by an enterprising and warlike Scandinavian tribe called the Varangi, who brought under subjection all the different nations in this quarter,—the Slavonians among the rest. The latter, however, ultimately shook off the yoke, defeating the Varangi in battle; but at the same time a marriage was contracted between the Varangian prince and the daughter of the leader of the Slavonians, or chief magistrate of Novgorod, called Gostomielz. After this the Slavonian state fell into desperate confusion from internal dissensions, and its chiefs thought it right to take the dying advice of Gostomielz, who said,—"I see no union among you; you wish to be your own governors, but you are governed by your passions; the great Novgorod will perish if you do not choose princes worthy of ruling you. My three sons are dead, and your only hope of safety is in my nephews, the Varangian princes Rurik, Sinaf, and Truvor." These princes were the issue of the marriage just mentioned. The principal citizens repaired to them, saying,—"Our country is large and fruitful; come and govern it according to our laws." The old record, from which Segur quotes this account, adds, that "the princes hesitated, for they knew the pride and licentiousness of Novgorod." It is very likely that the whole story is a fabrication to soften the actual conquest by the Russians*, who, under Rurik, certainly did come at the time indicated, and established a dynasty which reigned in the country about 700 years, and gave it the name it now bears. Novgorod became the capital of the new empire; and before this, and also long after, when, as a republic, it overawed the numerous sovereignties into which Russia became divided, it was of such power that the saying was proverbial,—"Who can withstand God and the great Novgorod." Its greatness has long departed; and its present population does not exceed 15,000. In former times it is said to have amounted to 400,000; but this estimate probably included the numerous strangers who resorted to it for the purposes of trade in the summer months and left it on the approach of winter.

Novgorod did not remain long enough the capital of the new monarchy to lose the republican character and principles which, for many subsequent ages, placed it apart from the principalities around it, and from the distractions by which they were rent asunder. The peculiar position of this powerful and proud republic—until the consolidation of all the separate principalities into which the empire had been broken, enabled Ivan Vasilievitch to abolish its separate existence and privileges in the sixteenth century—presents a phenomenon in history and politics which is every way worthy of far more attention than it has hitherto received.

When Rurik died, a stern but able man named Oleg became regent for the infant son of the late monarch. He obtained possession of Kief†, a city on the banks of the Dnieper, in southern Russia: and when he considered the proximity of his new conquest to the wealthy empire of the Greeks (which was then and ever since has been a prey earnestly coveted by the Russians), and when, moreover, he contrasted its mild and genial climate with the rigour of that from which he had come, he exclaimed, in a transport of delight, "Henceforth let Kief be the mother of all the Russian cities!" Kief accordingly became the seat of the chief authority for nearly 300 years, yet so that Novgorod did not wholly lose its metropolitan character, there being, in a sort, two capitals—Novgorod being the

* The Varangians were also called Russians, and seem to be identified with the Normans.

† The catacombs of this city have been described in No. 215 of the Penny Magazine.

Moscow, and Kief the Petersburg of those early times.

About three centuries after the establishment of Kief as the capital, that is, about the middle of the twelfth century, we find Russia governed by seventy-one sovereign princes, all descended from Rurik, and all acknowledging the prince of Kief as grand duke and lord paramount. At this period, however, "by means of partition on partition, and civil war on civil war, the grand principality had dwindled into little more than the city of Kief. Its paramount sovereignty was nothing but a vain title; and yet, whether it arose from the influence of a name, or that it was still looked upon as the Capua, the Babylon of the Russians,—the metropolis of their religion,—the emporium of their commerce,—the source of their civilization,—it is certain that all the anarchy of the princes continued to be obstinately bent against Kief. The eye becomes bewildered in gazing upon the confusion*." In this contest, a prince who inherited a most extensive territory in the very centre of Russia looked with discontent upon his own cheerless domains and inclement climate, and longed for the luxury and softness of Kief. He made himself master of that city, and soon became the victim of the indulgences which had rendered it attractive to him. His son Andrew regarded Kief with other eyes than his father; and, instead of removing thither, determined to aggrandize his own domains by rendering Vladimir, his chief town, the capital of the grand duchy. This town, which is situated about ninety miles to the east of Moscow, remained the metropolis until Moscow rose to importance; and its princes attained such power as, in the first instance, enabled them to render it the seat of the grand duchy, and ultimately the single capital of an undivided empire. However, during most of the period in which Vladimir was the capital, and in which Moscow acquired power, the country was subject to the Tartars, the successors of Genghiz Khan, who contented themselves with the southern provinces, and allowed the Russian princes to govern, as tributaries, the central and northern regions. *Their* capital was Sarai, a town on the Wolga, north of Astrakhan; and as the Russian princes, during this long period, were for ever dancing attendance there to seek the favour of the great khan and the chiefs of the "golden horde," and to convey presents and tributes thither, rendering it equally the scene of their degradation and of their intrigues against each other,—Sarai may perhaps be regarded as the political capital, being the seat of paramount power, and within the Russian territories.

MOSCOW.—The town of Moscow, according to old traditions, would derive its name from Mesech, or Mosoch, the son of Japhet, who fixed his residence in the present government of Moscow, giving his name to the river, which gave its name to the town, which gave the name of "Moscovy" to the empire. This opinion has, until recent times, been countenanced by biblical critics; and we even read of a Jewish rabbi, who, not more than sixty years since, made this application of the passage,—"Woe is me that I sojourn in Mesech." In consequence of which, the prayer for the emperor, which was printed in the Jewish liturgies up to that date, has been omitted in subsequent editions, and is never used in their synagogues, unless when some Christian, supposed to be acquainted with Hebrew, happens to be present†.

The received facts concerning the foundation of Moscow are characteristic of the times and the people. The various accounts pretty generally concur in assigning the foundation of the town to that grand duke who sighed for and obtained the luxuries of Kief to his own cost. His name was Yury, that is, George, surnamed "Long hand." The account runs that, somewhere in or about the year 1147, he was on a visit to his son Andrew, to whom he had given the principalities of Sujdal and Vladimir, when he happened to stop near the present site of the Kremlin. The enchanting situation of this hill attracted his attention; and, being struck with admiration of the villages and woods around, he inquired to whom this fine property belonged. The boyarin, Ivan Kutchko, was named to him as the owner, and he desired to become acquainted with him. This wealthy and powerful noble received him but coldly, and seems to have spoken of him with the asperity and ridicule which the line of conduct he had been pursuing was certainly well calculated to inspire. "*Justly irritated*," says Dr. Lyall, the prince sent for Kutchko to his presence, and after having reproached him for his inhospitality and insolence, ordered him to be put to death, and his body thrown into a pond. Such was the consequence of having one's possessions admired by a grand duke; for had it not been for this, Kutchko's bad temper would probably have been overlooked, and the "just" irritation of the sovereign would have stopped short of throwing him into a pond and appropriating his possessions. Yury himself seems not to have been well satisfied with his own conduct in this matter; for he imposed it as a duty to himself to provide for the family he had desolated. After having given orders for the erection of a wooden town on the spot he had so much admired, he proceeded to Vladimir with the two sons and daughter of Kutchko. The lady he gave in marriage to his son Andrew, who was the same person that afterwards transferred the capital from Kief to Vladimir, and did much to improve and enlarge the new town which his father had established.

Moscow rapidly acquired importance, and is frequently mentioned in the annals of the century in which it was founded; nor did any long period elapse before it became the denominating seat of one of the petty princedoms, into which the great central dominion which the Duke Yury had left to his son was soon broken up. Vladimir remained the seat of the grand dukedom, and was, as before, a subject of contention to the host of small sovereigns descended from Rurik. It was not until the early part of the fourteenth century that the princes of Moscow began to aspire to that dignity. They had made great interest for themselves at the head-quarters of the Golden Horde; and in 1313 the Tartar prince, Usbeg Khan, gave one of his sisters in marriage to the Duke Yury of Moscow. The interest thus established enabled this prince to obtain the nomination to the grand dukedom, when the wrath of Usbeg was excited by the attempts of the actual grand duke, Michael of Twer, to shake off the Tartar yoke. This Yury, then, was the first grand duke of the Moscow branch; but his own city did not become the paramount capital until the succession of his brother Ivan, surnamed Kalita*, who, on his return from receiving the investiture at the hands of the Great Khan, transferred the throne to Moscow, where he had been accustomed to reside, and where the metropolitan of Russia had already settled himself. This was in 1328; and from that time Moscow remained the national metropolis, until St. Petersburg arose to divide if not to appropriate that distinction.

It is foreign to our purpose to trace the steps by which the Muscovite princes proceeded from this time forward to aggrandize their power and establish a united autocracy. We need only mention that this

* Segur's History of Russia.

† Henderson's Biblical Researches in Russia and Lyall's History of Moscow.

* *Kalita*, "The Purse." He got this name, according to different authorities, either from his adroit use of money in centralizing at Moscow the diffused and broken power of Russia, or from his great wealth,—or from the purse, filled with alms for the poor, which was always carried before him.

object was completed by Ivan III., at the termination of whose reign, in 1505, Russia had become one great despotism with Moscow for its capital. The Tartars, weakened by internal dissensions, had been easily driven out; the small Russian sovereigns had become nobles at the court of the Grand Duke; and the great Novgorod, which had ruled so long the northern parts of the country, had been subjugated and reduced to a provincial town. The way for these results had been gradually preparing under previous sovereigns; but they were almost all actually obtained in the last-mentioned reign, that of Ivan III., surnamed the Great, because greatly successful; and he was successful, not by bold and immediately decisive measures, but by measures of deep policy and by well-managed designs, which made him master of the results which the fulness of time had ripened to his hand. At the commencement of his reign, in 1462, he held but a divided power in his own capital: Tartar residents, their retinue, and their merchants, were established even in the Kremlin; and it was only by an underhand intrigue with a Tartar woman that he got an order from the khan that the Mongols should no longer reside as masters in his chief city. At a still later period, the ceremonials with which he was bound to receive an envoy from the khan were inexpressibly degrading. He was to go forth and meet him, and spread a carpet of sable fur under the hoofs of his horse: he was to prostrate himself at his feet, and to hear the letter of the khan read to him on his knees; and, lastly, he was to present to the envoy a cup of koumiss, and was expected to lick from the neck of the barbarian's horse any drops of the beverage which might fall upon it!

At this time, and afterwards, the Kremlin was considered as the proper metropolis, all the rest of the town being regarded as suburb. It contained the palace of the prince, the public buildings, the ecclesiastical establishments, and the mansions of the nobles. This it still does, but not exclusively as then. The Kremlin, the original nucleus of the town and afterwards its fortress, may, in the most literal sense possible, be called the heart of Moscow, and is to the Russians an object of more intense veneration than we can associate with any building or mass of buildings, however reverend in their antiquity or holy in their uses. If a city had been built by angels and set down on the earth, all the associations which would be connected with it could not produce on any class or minds stronger feelings than those with which the mass of the people regard Moscow as a whole, and in particular the Kremlin, which is by many degrees the holiest of the multitude of things which they consider holy. The habitual feelings of a Russian in this respect can only be compared to that which in one rapturous hour of life the pilgrim entertains when, after a long and toilsome journey over mountains and deserts, he first obtains a view of the temple or the tomb which he has periled his life to see. It is among the most interesting studies of a traveller in Russia to observe the veneration with which the natives, particularly the peasantry, characterize Moscow as the "Sacred City:" the respectful attachment of their common expression "Mother Moscow," or the admiration and wonder implied in the epithet "Stone Moscow." The force of the last expression will be best understood on recollecting that a large proportion of the people have never seen any other stone town in all their lives. Moscow indeed is as yet far from being a stone town; but the Russians are not very particular in their appropriation of epithets,—thus all the buildings in the quarter called Kitai-gorod are called stone houses though built with brick, for which there does not appear any other reason than the quarter is inclosed by a stone wall, or that some of the buildings have the basement faced with stone.

From the time of Ivan III. to within our own times nothing very extraordinary occurs in the History of Moscow. Like that of other cities, the most prominent points of the register are fires, pestilences, tumults, ceremonies, and progressive improvements. We may pass all this by, only remarking that there is perhaps no city, except Constantinople, which has been exposed to such frequent and extensive conflagrations as Moscow. The reason of this may be found in the fact that the larger proportion of the houses have been of wood*, the number of which has only been very gradually diminished after each fire. Until the early part of the fifteenth century many of the churches were wholly or in great part of wood†, and the princes and nobles inhabited large wooden mansions; and long after this, or indeed down to the great conflagration of 1812, only they and the wealthier merchants dwelt in buildings of brick or stone. Moscow is still, in a very considerable degree, a wooden city.

In consequence of fires, together with the injuries occasioned to buildings of stone and brick by the expansive force of freezing water, assisted by the progress of improvement and the love of change and alteration, there are no structures of any considerable antiquity in Moscow. The town itself is not indeed very old; but still there is a great disproportion between the age of the oldest structures and that of the city. The oldest buildings are exclusively ecclesiastical structures. The six cathedrals were built in the sixteenth century, or a little before or after its commencement. There exist, indeed, monasteries and monastic churches which claim an earlier date; but as they are generally known by the same names, and their age is computed from the time of the original foundations rather than from the date of the existing fabrics, it is not easy for a stranger to ascertain whether any are really older than the cathedrals. Besides this, frost, and some of the other causes already specified, render such frequent and extensive repairs and alterations necessary that many of the older structures are very different from what they originally were. Yet travellers speak of the ancient appearance of Moscow. But in truth the aspect of Moscow is strange but not antique; and this is not the only instance in which the words have been used as convertible terms. It no doubt looks ancient as compared with Petersburg, but even on the ordinary road from the latter city to Moscow, there are some towns which, although comparatively small, have an appearance of much more real antiquity than the sacred city. We may instance Novgorod and Twer.

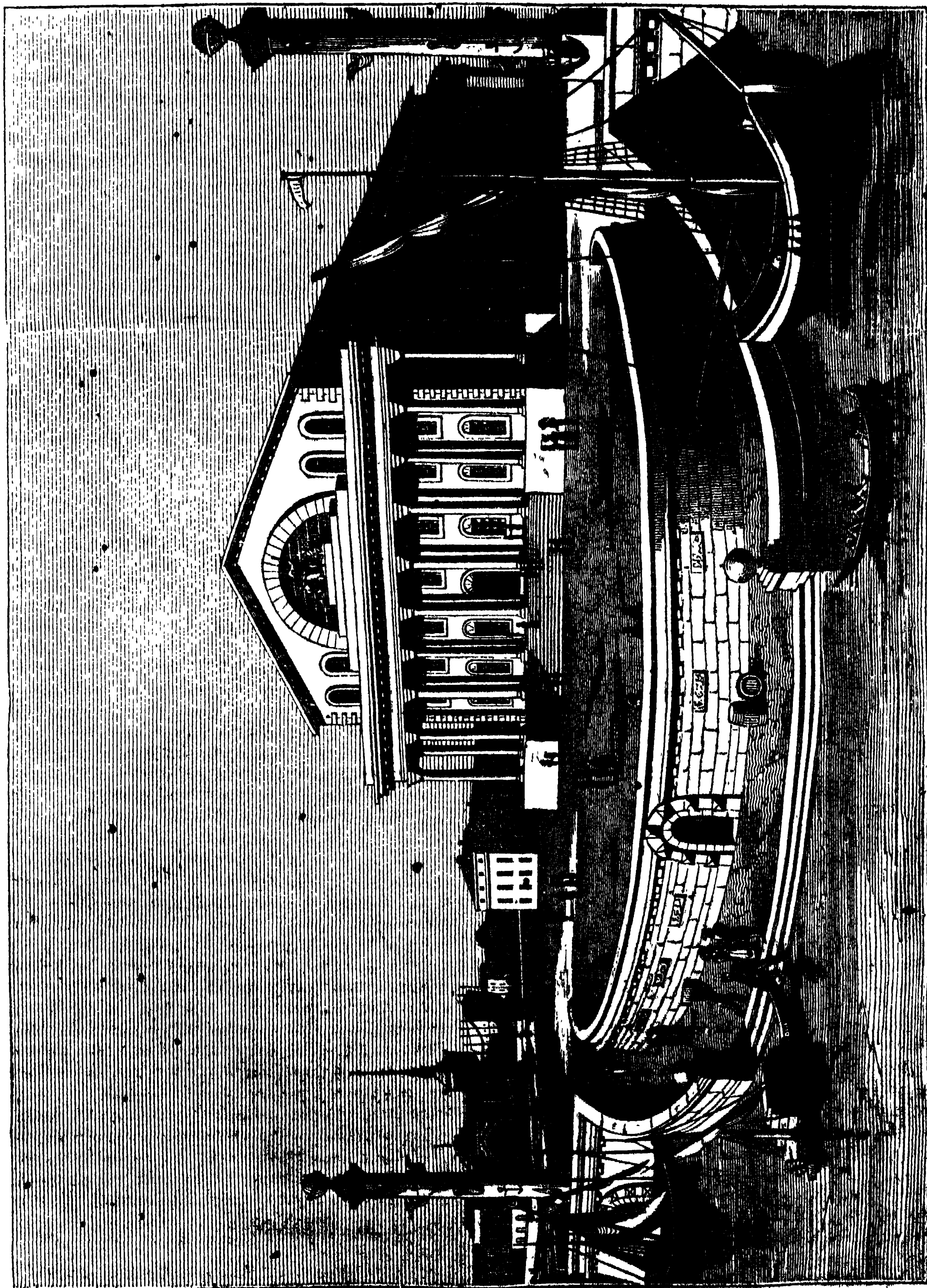
In mentioning the circumstances which have operated in producing changes in Moscow, it is impossible to abstain from some notice of the last and most important of all. We of course allude to the imposing expedition of Napoleon against Moscow in 1812, the conflagration of the city which ensued, and the consequent retreat and fearful ruin of one of the noblest armies with which ambition ever sought to win power and glory in the world. That amazing event which, by destroying the charm which had connected invincibility with the name of the extraordinary man who had declared that he would dictate his terms to the Czar from his own capital, put new vigour into the arms which had grown weary in opposing him, did, in effect, determine the fate for the conqueror of nations, which was but confirmed by the defeat at Leipsic in 1814, and sealed by that at Waterloo in 1815. Certainly such consequences of general importance never did result from the conflagration of any city since the world began; and these circumstances must render the burning of Moscow

* See an Article on 'Fires in Russia' in No. 195 of the 'Penny Magazine.'

† The churches in small towns are still almost always of wood. We do not recollect to have seen a church of brick or stone any where but in cities.

one of the grand historical events which will astonish and instruct the most remote future ages, when perhaps Moscow herself may not have one stone left upon another. The Russians themselves are deeply and abidingly impressed with the importance of that event. The 25th of December, besides being Christmas day, has been made a day for the religious commemoration of "the deliverance of the church and of the Russian empire from the invasion of the French and twenty other nations who came with them :" and it is common for the natives to use the same event in conversation as an era from which to compute modern time, speaking of a circumstance as having happened "so many years before, or so many years after, the French."

The question "Who burnt Moscow?" is one concerning which much has been written. Everywhere, except in Russia itself, it seems now to be considered a settled point that the Russian government directed the sacrifice in order to save the empire, by depriving the French of the shelter and supplies which alone could enable them to support the intense severity of a Russian winter. This is in fact the only rational supposition; for it is utterly absurd to imagine that the French could be so insane as to destroy a place upon



[The Bourse, St. Petersburg.]

the preservation of which their very existence depended; whilst that their existence depended on it was the very best of reasons that the Russians themselves should destroy it. That it is still attributed to the French in Russia is probably owing to the fact that the government precluded themselves from avowing this grand act of policy or patriotism, by having in the first instance used the fire as a means of exciting the feelings of the peasantry against the French, which could not be more effectually done than by charging them as the destroyers of the Holy City. It well answered this purpose; and it would now hardly be decent to retract the charge. It would not have been possible then, nor is it now, to convince the people of the necessity or propriety of such a sacrifice, and if the probability of it be mentioned to them, with a stare of astonishment at your stupidity or madness, they will indignantly repel the suicidal imputation. Nevertheless, the truth must be generally known in the upper classes of society, but that the belief is entertained can scarcely ever be gathered but from incidental expressions and indirect allusions. So also in the works of Russian authors; and we may quote a pretty plain avowal on the subject as given by the Russian historian and poet Karamzin, in a poem which has thus been rendered by Dr. Bowring in his 'Russian Anthology:—

"Proud City! Sovereign Mother thou
Of all Sclavonian cities now!
Work of seven ages!—beauty once
And glory were around thee spread;
Toil-gathered riches blest thy sons,
And splendid temples crown'd thy head:
Our monarchs in thy bosom lie—
With sainted dust that cannot die!

Farewell! Farewell! thy children's hands
Have seized the all destroying brands
To whelm in ashes all thy pride:
Blaze! blaze! thy guilt in flames be lost;
And heaven and earth be satisfied
With thee, the nation's holocaust!
The foe of peace shall find in thee
The ruined tomb of victory."

The extent of the devastation is very differently estimated; but the difference is greater in terms than in fact. It is to be understood that the houses in Moscow were and are principally arranged in courts, each of which, besides the principal building or house, contains appendages which are more or less numerous according to circumstances, being kitchen, stables, coach-houses, cellars, and houses for servants. Some writers regard the whole as one house, and others number the appendages separately. Adopting the former mode of computation, Moscow may be said to have contained about 10,000 houses, of which not more than 3000 escaped the flames. One statement mentions that nearly 8000 of the entire number of houses were of wood. Another computation, which does not make the whole exceed 9100, says that 6591 were of wood. In either case the extent of the devastation is not surprising. It speaks favourably for the resources and energy of the nation that the whole has now been rebuilt with more uniformity and elegance, and with a much larger proportion of stone and brick buildings than before.

The plan, as we have already intimated, on which we judged that this Supplement might be rendered the most useful, precludes us from more than a very brief notice of the characterising features of Moscow or Petersburg as they now appear. Moscow, since the fire, has been much improved, but not altered in its essential characteristics. The comparison of a picture and a caricature of the same object often gives a truer idea of the original than a picture only. Take then the picture of Coxe in 1784, and the caricature of Clarke in 1800, which, with our corrections and remarks, will convey as true an idea of the present city as our remaining limits allow us to supply. First for Coxe:—

"If I was struck with the singularity of Smolensko, I was all astonishment at the variety and immensity of Moscow. A city so irregular, so uncommon, so extraordinary, and so contrasted, had never before claimed my astonishment. The streets are in general exceedingly long and broad, some of them are paved, others, particularly those in the suburbs, are formed with trunks of trees, or are boarded with planks, like the floor of a room; wretched hovels are blended with large palaces; cottages of one story stand next to the most superb and stately mansions; many brick structures are covered with wooden tops; some of the wooden houses are painted, others have iron doors and roofs. Numerous churches presented themselves in every quarter, built in a peculiar style of architecture; some with domes of copper, others of tin, gilt or painted green, and many roofed with wood. In a word, some parts of this vast city have the appearance of a sequestered desert, others quarters of a populous town; some of a contemptible village, others of a great capital. Moscow may be considered as a town built upon the Asiatic model, but gradually becoming more and more European; exhibiting a motley mixture of discordant architecture."

This is an excellent condensed picture, and will answer quite well for the present town, excepting that the appearance of the place has become considerably more European since the fire of 1812; and that the contrast of meanness and magnificence, though often obtrusive enough, is not nearly so glaring as before. To this we may add that the wooden buildings are now generally covered with stucco, so that it is difficult to distinguish them from brick houses, which, for the most part, are similarly covered, although in some cases the frontage of red brick is considered sufficient of itself.

Now for Clarke:—

"Moscow is in everything extraordinary, as well in disappointing expectation as in surpassing it,—in causing wonder and derision, pleasure and regret. Let me conduct the reader back with me again to the gate at which we entered, and thence through the streets. Numerous spires, glittering with gold amidst burnished domes and painted palaces, appear in the midst of an open plain for several versts before you reach the gate. Having passed, you look about, and wonder what is become of the city, or where you are, and are ready to ask once more, 'How far is it to Moscow?' they will tell you, 'this is Moscow,' and you behold nothing but a wide and scattered suburb, huts, gardens, pig-styes, brickwalls, churches, dunghills, palaces, timber-yards, warehouses, and a refuse, as it were, of materials sufficient to stock an empire with miserable villages. One might imagine that all the states of Europe and Asia had sent a building by way of representative to Moscow; and under this impression the eye is presented with deputies from all regions holding congress; timber-huts from regions beyond the Arctic; plastered palaces from Sweden and Denmark, not whitewashed since their arrival; painted palaces from the Tyrol; mosques from Constantinople; Tartar temples from Bucharia; pagodas, pavilions, and virandas from China; cabarets from Spain; dungeons, prisons, and public offices from France; architectural ruins from Rome; terraces and trellices from Naples; and warehouses from Wapping.

We have called this sketch a caricature; but it is a caricature in the best style of H. B.'s likenesses. Possibly it was a true likeness in 1800, and has been rendered a caricature by the improvements which the subject has undergone. The idea of a representative city is exceedingly good, and should not be understood as a disparagement in the instance of Moscow, although it might be outrageous if it occurred in any other metropolis. As we trod its streets and explored its Kremlin, astonished at the wildering intermixture and endless variety of styles and characters in its public and domestic buildings, we found pleasure in merging the question of taste altogether, and in considering it as a fit and beautiful thing that the metropolis should thus be rendered an epitome of that extraordinary empire which comprehends within its

bosom almost every grade of civilization, from the savage hunters and barbarous nomades to men far advanced in enlightenment and knowledge and in the refinements of taste and the comforts of social life,—an empire which embraces so many languages, nations, religions, and which, territorially considered, extends in one direction from the Arctic to the "sweet south," and in another spans the whole breadth of two great continents, and encroaches on a third. Unity would be the real incongruity in such a metropolis; and for this reason, among others, Petersburg,

"The pleasant capital of painted snows,"

is never felt to be a proper or characteristic metropolis for the empire as a whole, whatever it may be for the more European part of it. Moscow is the universal capital.

Now the result of all this is, that Moscow is an exceedingly striking city regarded as a whole, and is pretty, and even beautiful, in many of its parts; but it nowhere possesses anything like grandeur, or makes any approach to it. There is indeed scarcely a single building which can be called grand, considered separately. Even the cathedrals, the crowning glories of Moscow, cannot be excepted. St. Paul's would hold three or four of the largest, including the most extensive of all, that of the Assumption, commonly distinguished as the "great cathedral," on account of its magnitude as compared with the other churches of the city.

ST. PETERSBURG.—The facts connected with the origin of this capital, and the views of national benefit which have operated in changing a desolate morass to a great and splendid city, form a subject that deserves to be most carefully and attentively studied. The early history of no city that we have in recollection is half so interesting or instructive. It is completely modern, too, in its construction and in the principles which led to its construction, that it is altogether the city of our own age, and the only large one that can be so distinguished. It is also the only city which has been founded and built on principle throughout. It was even necessary, in some sort, to create the ground on which the future city was to stand. When Peter the Great wished to establish a capital which should be more European in its position than Moscow, and at the same time become the emporium of a future great maritime commerce and the centre of a future great naval power, and for this purpose fixed on the fetid swamps of the Neva and began there to form a site for a great city,—cutting down the solitary tree on which the height of the last inundation was marked:—when Peter did this, people thought him mad. His provinces complained of the remoteness of the situation, and the expense and difficulty of communicating with the future seat of commerce and government, while the nobles had serious objections to the barren and swampy soil, as well as to the inclement climate, "in which winter reigned for eight months in the year,—where rye was an article of garden culture, and a bee-hive a curiosity*." The man who looked so far into the future —who saw in a city not then begun the seat of an influence in Europe not then established,—of a commerce not then formed, and of a naval power not then in existence,—could not hope to be generally comprehended. But Peter was not mad; he was a great man: and if it was thought proper to call him "great" a hundred years ago, it is still more proper now, when time has demonstrated the wisdom of his measures, and his nation has reaped the benefit of his well-considered plans. He was one of those men whose

"————Large discourse,
Looking before and after,"

often looks like prophecy, while it is in fact only experience of the past combined with an accurate judgment of that which shall, in future time, result from present measures.

"It was on this nearest spot to the civilization, and consequently to the commerce of Europe," says Segur, "that he [Peter] established his abode not by a palace, as Mentzikof had done, but by the institutions and foundations of public utility which belong to a great capital. The infectious and desert marshes had already disappeared under quays, under an admiralty, under colleges, military schools, and halls of justice, in which sat courts of appeal, under commercial tribunals, composed of foreigners and natives, and lastly under manufactories of arms, of linen, of woollen, of tapestry, and even of gold and silver thread, silk, velvet, and glass.

"To secure these buildings, and even the humblest wooden cottages from the ravages of fire, he himself set the example of devotedness; he took the station of a police-officer of the second class. In this occupation, which gave him the superintendence of the others, he has been seen to run over the burning beams. To preserve his new city he daily manifested a devotedness, a forgetfulness of self, equal to the ardour and temerity with which, eighteen years before, he had wrested from the Swedes this pestilential and uninhabited spot—a memorable example of that perseverance which is the distinguishing quality of all great men; and which, wherever it is found, awes and inspires respect, even when its object is reprehensible; but which here was the more worthy of remark, because it was consecrated to the accomplishment of the noblest and most patriotic of all the inspirations of genius.

"It is in such great foundations as these that we recognize its impress. Alexander left his in Alexandria; Peter in Petersburg. This unnoted spot of earth, transformed by the will of a great man, was destined to become, a hundred years after his death, the centre and emporium of a commerce which ranks among the most extensive of the world; its 300,000 inhabitants exporting or importing native or foreign productions to the value of between 40,000,000*l.* and 50,000,000*l.*; there the fate of Europe was to be decided, and the whole moral and political aspect of the northern regions was to undergo a change."

In a small island of the Neva, near the citadel, is still preserved the small wooden house which Peter occupied, while directing and superintending the foundation and progress of the city. It is a simple and rudely-constructed cottage, containing a sitting-room, a bed-room, and a dining parlour. This monument of the great Czar's unostentatious and simple manner of life has been carefully preserved, and is pointed out to strangers with becoming pride by the inhabitants, who also show a boat in the same place built by Peter's own hands.

The city of St. Petersburg is in most respects a very complete contrast to that of Moscow. In speaking of it as a whole, we can only state the results of a detailed inspection, as its extremely low and level situation precludes any considerable part of it from being seen to advantage in one view. On approaching from the Gulf of Finland, indeed, the glitter of the gilded spires in the sun prepares the mind for something extraordinary, and when, on a nearer approach, the long and wide vista opens, which is formed by the deep and broad river lined with granite quays, and bordered by public and private buildings of diversified claim to notice, but all tasteful and elegant, the expectation seems to be more than realized. The avenue formed by this noble, clear, and rapid stream, would alone be sufficient to entitle the city to be called splendid; and we have certainly, either from personal observation or from description, no knowledge of any stream that passes through a town with so much state as the Neva passes through St. Petersburg. The make-shift appearance of the pontoon bridges, however, detracts somewhat from the otherwise uniform beauty of this view; and it is to be lamented that the nature

* Segur, book ix., chap. v.

of the stream, and the floating masses of ice which are brought down from the lake Ladoga, has precluded the erection of stone bridges, while the lowness of the ground through which it passes offers obstacles to bridges on the suspension principle.

Petersburg is not in this instance only a city of long and fine vistas: the fact that the nature of the ground precluded a proper display of the city by any other method probably suggested the arrangement of the more imposing parts of the town in long, wide, and straight streets, affording a continuous view from one end to the other, the principal of them having that fine building, the Admiralty, for a terminating central object. Most of the streets are from 60 to 120 feet wide, and there are some that are considerably wider. Nearly all the streets are in perfectly straight lines, but run to various lengths, and intersect each other at different angles. None of the streets can be called mean or dirty, although, in the outskirts of the town, mean cottages of wood may be found. There is often a great delusion in estimating the length of streets; and before we put any confidence in figures we must know how they are measured. Such a city as London loses some of the credit it might claim for long streets by naming a line of street differently where intersected by a cross street, while Petersburg gains in a corresponding proportion by continuing the same name throughout the whole line. However, the Russian city has certainly some of the longest lines of street which any city possesses. There are seven or eight that considerably exceed a mile in direct length, two or three that exceed a mile and a half, and two of two miles. The principal street of all, the Nevsköi Prospekt, indeed, exceeds two miles in its entire length, but does not quite reach to two miles in a perfectly straight line from the Admiralty, it being one of the three that radiate from that building. This Nevsköi Prospekt is confessedly the finest street of St. Petersburg; and its length is enormous considered with regard to the extent of the city, for although the town is small compared with London, this street much exceeds in length any which our own gigantic metropolis contains. Oxford Street approaches the nearest to it, but is of much inferior length; the Paddington New Road, lined as it is now with buildings throughout its length, would, if straight and level, give the best idea of it, and is, in fact, much longer than the famous Russian street. But here comparison ends, and a Londoner could only form some idea of the Nevsköi Prospekt by endeavouring to imagine a good deal of Regent Street and something of Oxford Street placed in the Paddington New Road which must be widened in some parts and levelled in others for the occasion: in other words, it may be described as a long and wide street, in which a line of trees on each side separates the foot-path from the carriage-way. The houses, which adjoin each other, instead of standing apart as at Moscow, have their fronts covered with stucco, often ornamented with columns, pilasters, and bas-relief. The elevation of the houses does not so much arise from the number of the stories as from their height, so that a house of three stories at Petersburg is as high as one of four, or even five, in London. The basements of most of the houses are occupied as shops, even when persons of distinction reside in the upper stories. The shops offer nothing of that rich display which appears in the commercial streets of London. The windows are small, as to a private house; but the principal articles on sale are painted on a board or on the shutters in a style of art much on a par with that which the London signs exhibit. All things are thus represented, not excepting even articles of dress, although the rapid alterations of fashions soon make the painting appear antiquated. Even trades are thus figured forth, and a stranger may be much amused and instructed by this class of signs, as where the barber in the same piece is represented in the act of performing his manifold functions of trimming a beard, cutting hair, drawing a tooth, breathing a vein, and sometimes even cupping. These observations about houses and shops will apply very well to other streets; and we shall only further remark, that the English eye is apt to get tired of the everlasting white-wash and yellow-ochre, and may sometimes be tempted to covet the dull sobriety of red brick. The truth may be that, except upon the Neva, Petersburg has a fine and pleasing rather than a dignified or imposing appearance.

Besides the different branches of the Neva, and some small streams, there are three fine canals, which together distinctly mark out the different quarters of the city and form them into so many insular portions. These water-streets, as they may be called, add very much to the beauty of the town, particularly as a great number of small bridges thus become necessary, many of which are, in various degrees, highly picturesque and elegant: they are about seventy in number.

The public buildings of Petersburg and the palaces of the princes and nobles are mostly in the Roman-Greek style of architecture, and have principally been erected from the designs of Italian architects, who have had the principal hand in most of the architectural improvements of Moscow and Petersburg, and have given to the latter more of the air of an Italian city than seems well to befit a climate the inclemency of which is in the most striking contrast with that of the bland regions where this style originated, and to which it is adapted. The churches are not any thing near so numerous as at Moscow, and being mostly built on recognized architectural principles, there are few of very startling appearance, as at the old city, though some of them are very fine buildings, particularly the church of St. Isaac, near the Admiralty, and that of Our Lady of Kazan in the Nevsköi Prospekt. There are no churches in the Gothic style. The Byzantine-Greek style of ecclesiastical architecture, with its single or clustered domes, is that which prevails at Petersburg.

We have already intimated that there seems to be in Petersburg a want of adaptation to the climate and to the people which tends to detract very much from the effect which such a city must produce in its proper place. It has too much the appearance of an exotic production to be contemplated with unalloyed satisfaction. It is too gay, too light, too tasteful, for the stern region and the people among whom its lot has fallen. It is not an emanation from them, but was created for them, and is above the mark to which they have yet attained; therefore, however pleasing in the abstract as the *idea* of a city, it cannot, as the capital of Russia, be regarded without some of that dissatisfaction which unfitness always inspires. There is also another uncomfortable feeling from the continual consciousness of the palpable and detailed triumph over Nature which Petersburg exhibits. The indications are too visible of the constraint and violence which have been employed.

In this Supplement our personal recollections and reflections have been assisted principally by reference to Segur's 'History of Russia,' Clarke's 'Travels,' Lyall's 'Moscow,' Granville's 'Petersburg,' and Henderson's 'Biblical Researches in Russia.'

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THE DATE-PALM.



[Wild Date-Palm, found on the Sinai Mountains.]

"Lo! higher still the stately palm-trees rise,
Chequering the clouds with their unbending stems,
And o'er the clouds amid the dark blue skies
Lifting their rich unfading diadems.
How calm and placidly they rest
Upon the Heaven's indulgent breast,
As if their branches never breeze had known!
Light bathes them aye in glancing showers,
And Silence 'mid their lofty bowers
Sits on her moveless throne."

Wilson's 'Isle of Palms.'

THE date is one of those plants which, in the countries that are congenial to their growth, form the principal subsistence of man; and its locality is so peculiar that it cannot, strictly speaking, be classed either with the fruits of the temperate climates, or with those of the tropical. It holds a certain intermediate place, and is most abundant in regions where there are few other esculent vegetables to be found.

There is one district where, in consequence of the extreme aridity of the soil, and the want of moisture in the air, none of the Cerealia will grow: that district is the margin of the mighty desert which extends with but few interruptions from the Atlantic to the confines of Persia, an extent of nearly four thousand miles. The shores, the banks of the rivers, and every part of the region in which there is humidity, are exceedingly fertile; and even with unskilful culture produce the most abundant crops and the choicest fruits. But along the verge of the desert, and in the smaller oases or isles which here and there spot that wilderness of sand, the date-palm is the only vegetable on which man can subsist. Over the lowly vegetables, of a saline and succulent description, which appear on this soil, the date-palm raises its trunk and spreads its leaves, and is the sole vegetable monarch of the thirsty land. It is so abundant, and so unmixed with any-

thing else that can be considered as a tree in the country between the states of Barbary and the desert, that this region is designated as the Land of Dates (Biledulgerid); and upon the last plain, as the desert is approached, the only objects that break the dull outline of the landscape are the date-palm and the tent of the Arab. The same tree accompanies the margin of the desert in all its sinuosities; in Tripoli, in Barca, along the valley of the Nile, in the north of Arabia, and in the south-east of Turkey. Rearing its stem, and expanding its broad and beautiful shade, where there is nothing else to shelter man from the burning rays of the sun, the palm-tree is hailed by the wanderer in the desert with more pleasure than he hails any other tree in any other situation. Nor is it for its shade alone, or even for its fruit, that the palm is so desirable in that country; for wherever a little clump of palms contrast their bright green with the red wilderness around, the traveller may in general be sure that he shall find a fountain ready to afford him its cooling water.

Although there are some palms more majestic, the date-palm is still a beautiful tree. Its stem shoots up in one cylindrical column to the height of fifty or sixty feet, without branch or division, and of the same thickness throughout its whole length. When it attains this height, its diameter is from a foot to eighteen inches. From the summit of this majestic trunk it throws out a magnificent crown of leaves, which are equally graceful in their formation and arrangement.

"Those groups of lovely date-trees bending
Languidly their leaf-crowned heads,
Like youthful maids, when sleep descending
Warns them to their silken beds*."

The main stems of the leaves are from eight to ten feet long, firm, shining, and tapering; and each embraces, at its insertion, a considerable part of the trunk. The trunk of the palm is, in fact, made up of the remains of leaves, the ends of which are prominent just under the crown, but more obliterated towards the root of the tree. The bottoms of the leaves are enveloped in membranous sheaths, or fringed with very tough fibrous matter. These leaves are pinnated, or in the form of feathers, each leaf being composed of a great number of long, narrow leaflets, which are alternate, and of a bright lively green. Near the base of the leaf these leaflets are often three feet long; but even then they are not one inch in breadth, neither do they open flat, but remain with a ridge in the middle, something like the keel of a boat. When the leaves are young they are twisted together and matted up with loose fibres, which open and disperse as the leaf expands. The young leaflet is also armed at the extremity with a hard black spine or thorn. They are more stiff and firm than the leaves of any other tree.

The flowers come out in large bunches or spikes from between the leaves; they are at first enclosed in a spatha, or sheath, which opens to let them expand, and then shrivels and withers. The date-palm is a diœcious tree, having the male flowers in one plant, and the female, or fruiting ones, in another. The male flowers are considerably larger than the female; and the latter, instead of having stamens in their centres, have the rudiments of dates, about the size of small peas.

The two distinct sexes of the date-tree appear to have been known from the remotest antiquity, as they are noticed by all the ancients who describe the tree. It is not a little remarkable that there is a difference in the fructification of the wild date and the cultivated. Wild dates impregnate themselves; but the cultivated ones do not without the assistance of art. In every plantation of cultivated dates, one of the labours of the cultivator consists in collecting the flowers of the male date, climbing to the top of the female with them, and dispersing the pollen on the germs of the dates. So essential is this operation that, although the male and female trees are growing in the same plantation, the crop fails if it be not performed. A very remarkable instance of this is related by Delile in his 'Egyptian Flora.' The date-trees in the neighbourhood of Cairo did not yield a crop in 1800. The French and Turkish troops having been fighting all over the country in the spring, field-labour of every kind was suspended, and, among the rest, the fecundation of the date. The female date-trees put forth their bunches of flowers as usual, but not one of them ripened into edible fruit. The pollen of the male trees appears to have been scattered over the country by the winds; and, as it had not been sufficiently abundant for reaching the germs, so as to insure fructification, an almost universal failure was the consequence. Michaux relates an instance in which the male date-trees of a whole province were wantonly destroyed by an invading army; but the inhabitants, who were apprehensive of such a result, having previously taken the precaution of collecting and preserving the pollen in close vessels, were enabled to impregnate the female flowers with it after the country was cleared from the destroying army. It is said that the pollen had thus preserved its powers during nineteen years.

Four or five months after the operation of fecundation has been performed, the dates begin to swell; and when they have attained to nearly their full size, they are carefully tied to the base of the leaves, to prevent them from being bruised or beaten by the wind. If meant to be preserved, they are gathered a little before they are ripe; but when they are intended to be eaten fresh, they are allowed to ripen perfectly, in which state they are a very refreshing and agreeable fruit. Ripe dates cannot however be kept any length of time, or conveyed to any great distance, without fermenting and becoming acid; and therefore those which are intended for storing up, or for being carried to a distant market, are dried in the sun upon mats. The dates which come to the European market from the Levant and Barbary are in this state; and the travellers in the desert often carry with them a little bag of dried dates, as their only or their chief subsistence during journeys of many hundred miles. In some parts of the East, the dates that fall from the cultivated trees are left upon the ground for the refreshment of the wayfaring man.

In the Hedjaz, as Burckhardt informs us, (and the observation applies very generally to other date countries,) the harvest of dates is expected with as much anxiety, and attended with as general rejoicing, as the vintage of the south of Europe. The crop sometimes fails, or is destroyed by locusts, and then a universal gloom overspreads the population. The people do not depend upon the new fruit alone: but during the ten months of the year when no ripe dates can be procured their principal subsistence is the date-paste, called *adjoue*, which is prepared by pressing the fruit, when fully matured, into large baskets. "What is the price of dates at Mekka or Medina?" is always the first question asked by a Bedouin who meets a passenger on the road.

There is, indeed, hardly any part of the tree which is not serviceable to man, either as a necessary or as a luxury. When the fruit is completely ripened it will, by strong pressure, yield a delicious syrup, which serves for preserving dates and other fruits; or the fruit may be made into jellies and tarts. The stalks of the bunches of dates, hard as they are in their natural state, as well as the kernels, are softened by boiling, and, in that condition, are fit for feeding cattle. Dates, with the addition of water, afford by distillation a very good

* Moore.

ardent spirit, which, as it does not come within the prohibition of the Koran against wine, is much used in some of the Mohammedan countries, and answers the same purpose of false excitement as the various kinds of fermented liquors and distilled spirits used by other nations. Palm-wine is also made from the date, and is also without the statute of the prophet. It is the sap of the tree, and can only be obtained by its destruction, so that such trees only as are unproductive are selected for the purpose of obtaining it. The time chosen for the purpose is when the tree is in the most active state of vegetation. The crown is then cut off and a cavity scooped in the top of the trunk. As the sap rises it exudes into this cavity at the rate of nearly a gallon a-day for the first two weeks, after which it gradually diminishes, and, at the end of six weeks or two months, it stops entirely, and the tree, which has become completely dry by the operation, is cut down for firewood, or for some other of the purposes to which the trunk of the palm is applied. When the juice first exudes from the tree it is remarkably sweet, but it soon ferments and becomes vinous, with a certain degree of acidity. This juice may also be distilled into an ardent spirit; and, in fact, the genuine arrack, or rack, of the East is obtained from the juice of palms. In Egypt and Arabia the date-trees that have become unproductive through age or any other circumstance are commonly disposed of in this manner. What is called the *cabbage* of the palm is a conical tuft in the centre of the crown of leaves, and is formed of the future leaves in their undeveloped state. When the outside is removed, this part of the date-tree tastes very much like a fresh chestnut; but, like the palm-juice, it is obtained only by the destruction of the tree, and therefore it is not taken except from those trees that are cut for the sake of the sap or juice.

The fibrous parts of the date-tree are made into ropes, baskets, mats, and various other articles of domestic use; and so are the strings or stalks that bear the dates. The cordage of the ships navigating the Red Sea is almost exclusively of the inner fibrous bark of the date-tree. The trunk answers very well for posts, railings, and other coarse purposes; but it is not fit for being worked into planks, as its fibrous nature makes it easily split lengthwise into threads. The medullary part is much more abundant and soft towards the centre of the tree than towards the circumference, and therefore when it is to be used as timber, the trunk is generally cleft in two down the middle, for the purpose of allowing the heart to dry and harden. The medullary part of the tree is partly farinaceous, and soluble in water; and a nutritious substance may be obtained from it, resembling in consistency the sago which is obtained from another kind of palm. In the proper date-tree the quantity of this is small, and the quality not good; and is, in both respects, much exceeded by a smaller species of palm, a native of the East Indies.

Even the leaves of the date-pa m have their uses;—their great length and comparatively small breadth, and their toughness, render them very good materials for the construction of coarse ropes, baskets, bags, fans, brooms, panniers, and mats. The stem of the leaf, which forms a long and stout tapering rod or staff, serves many useful purposes. At Bagdad it is a trade to work them up into all sorts of domestic articles, such as bedsteads, couches, cages, and even tables and stools. When an even and solid surface is desired, the sticks are laid side by side, and then the surface planed to something of a level. The circular boats of the Tigris and Euphrates are also entirely made from the leaf-stem and leaflets of the date-tree. The former serves for the ribs, which are interwoven with the leaflets, the whole being afterwards coated with bitumen. On the continent of Europe palm-branches are a regular article of trade; and the religious processions, both of Christians and Jews, in the greater part of Europe, are supplied from some palm-forests near the shores of the Gulf of Genoa.

The cultivation of the date-tree is an object of the highest importance in the countries of the east. In the interior of Barbary,—in great part of Egypt,—in the more dry districts of Syria,—and in Arabia, it is almost the sole subject of agriculture. In the valleys of the Hedjaz there are more than a hundred kinds of dates, each of which is peculiar to a district and has its own peculiar virtues. Date-trees pass from one person to another in the course of trade, and are sold by the single tree; and the price paid to a girl's father on marrying her often consists of date-trees.

Southey, in his poem of 'Thalaba,' has a passage or two in which the palm-tree and its uses are alluded to. The following is a pleasing picture of Arab domestic life:—

"Under the common shelter, on dry sand,
The quiet camels ruminate their food;
From Moath falls the lengthening cord,
As patiently the old man
Entwines the strong palm fibres; by the hearth
The damsel shakes the coffee grains
That with warm fragrance fill the tent;
And while, with dexterous fingers, Thalaba
Shapes the green basket, haply at his feet
Her favourite kidling gnaws the twig,
Forgiven plunderer for Oneiza's sake!"

The agility of the Arab is witnessed to great advantage when he is seen to climb up the tall and branchless trunk, and attains the tufted summit either to gather the fruit or to perform some one of the operations we have mentioned. The following passage, also from 'Thalaba,' invests the gathering of dates with some picturesque circumstances:—

"At length to the cords of a tent
That were stretched by an island of palms,
In the desolate sea of the sands
That seemly traveller came.
Under a shapely palm,
Herself as shapely, there a damsel stood;
She held her ready robe,
And look'd towards a boy,
Who from the tree above,
With one hand clinging to its trunk,
Cast with the other down the cluster'd dates."

A pleasant anecdote was related to Sir John Malcolm, which will serve to illustrate the indispensable character of this tree in the eyes of the Arabs, to whom indeed it seems to occupy much the same place in the vegetable kingdom as the camel does in the animal; and to be in an equal, perhaps a superior degree, a beautiful provision of nature for their wants and the peculiar physical circumstances of the country they inhabit. The story runs thus:—"Some time since an Arab woman, a native of Abusheher, went to England with the children of a Mr. Beauman. She remained in your country four years. When she returned, all gathered round her to gratify their curiosity about England. 'What did you find there? Is it a fine country? Are the people rich? Are they happy?' She answered, 'The country was like a garden; the people were rich, had fine clothes, fine houses, fine horses, fine carriages, and were said to be very wise and happy.' The audience were filled with envy of the English, and a gloom spread over them which showed discontent at their own condition. They were departing with this sentiment when the woman happened to say, 'England certainly wants one thing.'—'What is that?' said the Arabs eagerly. 'There is not a single date-tree in the whole country!' 'Are you sure?' was the general exclamation. 'Positive!' said the old nurse: 'I looked for nothing else all the time I was there, but I looked in vain.' This information produced an instantaneous change of feeling among the Arabs: it was pity, not

envy, that now filled their breasts, and they went away wondering how men could live in a country where there were no date-trees."

Our wood-cut represents a wild date-palm, found by MM. Leon and Laborde in the Sinai mountains. It exhibits none of the elegance of form under which the palm-tree is usually represented, and which is commonly supposed its proper characteristic, although actually caused by art,—the simple art of cutting away year by year the lower branches, or rather leaves, as the tree ascends in its growth. This not being attended to, a rampart is formed with the decayed branches, and the tree continues to grow from the midst of its own *debris*. Neglected by the desert Arab, who considers all culture as below his dignity, the palm-trees sometimes form impenetrable forests; but more frequently isolated near some spring, as in the engraving, it stands a most cheering beacon to the traveller, promising on the one hand water whereby his thirst may be appeased, and on the other a grateful shade under which he may repose.

A considerable part of the above article is abridged from 'Vegetable Substances,' in the 'Library of Entertaining Knowledge.' Something has been introduced from other sources, and from a personal acquaintance with the tree in its native country.

DERBY.

The town of Derby is situated in the southern and level part of the county, in the hundred of Morleston and Litchurch. It lies in an open valley, low, but not flat, and is surrounded by a pleasant undulating country. It is situate on the west bank of the Derwent, a few miles above the junction of that river with the Trent. The soil in the valley is in general very good, and the land in the neighbourhood of the town is in a high state of cultivation. Water is plentiful, in fact too much so; for the floods caused by rains in the mountainous part of the county, where the river has its source, have sometimes proved very destructive. The town is ancient, possibly British: there is no doubt that it took its name from that of the river Derwent, for which several etymologies have been devised. The name is common to several short rivers in England, as in Cumberland, Durham, and York; perhaps we may add to the number the Darent in Kent. The Roman station Derventio, on the east bank of the river, opposite to Derby, is no doubt the British name latinized. It does not appear that there was a Roman town on the spot where Derby now stands, though some habitations were most certainly there. Roman remains have been occasionally dug up, and in 1825 a tessellated pavement was found in making a foundation for a new house. The Ikenild Street passed close by the site of the town, on its way to Derventio, over the Derwent, which it crossed by a bridge, the foundations of which, it is said, are yet existing, and may be felt in the bed of the river by an oar or long pole.

Notwithstanding its antiquity, there are but few historical facts of importance connected with Derby. It came early into the possession of the Danes, being occupied by the Danish chief Halfden in the reign of Alfred. It remained in their power about forty-five years, when Ethelfleda, a daughter of Alfred, and wife of Ethelred, the Earl of Mercia, recovered possession of it, after a bloody battle within the town, from which [illegible] with considerable slaughter. This was in the year 918; but the Saxon dominion was of short duration. The Danes soon returned in greater force, recovered the town, and retained it with little interruption so long as they held any power in England. This people knew it by the name of Deoraby, which, with a mere orthographical change, it still retains; while the Saxons, to whom it might be called a foreign town, gave it the uncouth appellation of Northworthligie.

Derby attained considerable importance before the Norman conquest, and it is stated in 'Domesday Book' to have contained 243 burgesses in the reign of Edward the Confessor; but a very few years reduced that number to little more than a third of its former amount. This diminution is attributable to losses in war: the vassals of Edwin Earl of Mercia, in which division of the kingdom Derby was comprised, had joined those of Morcai Earl of Northumberland to repel the attacks of Norway on the northern part of the kingdom; and the town was immediately after drained of those who remained by Harold, and carried to the south to fall in battle against William the Conqueror. When the domesday survey was made, the number of burgesses was only 100. The town was granted by the Conqueror to his natural son William Peveril, whose name has been made known to every reader by the pen of Sir Walter Scott.

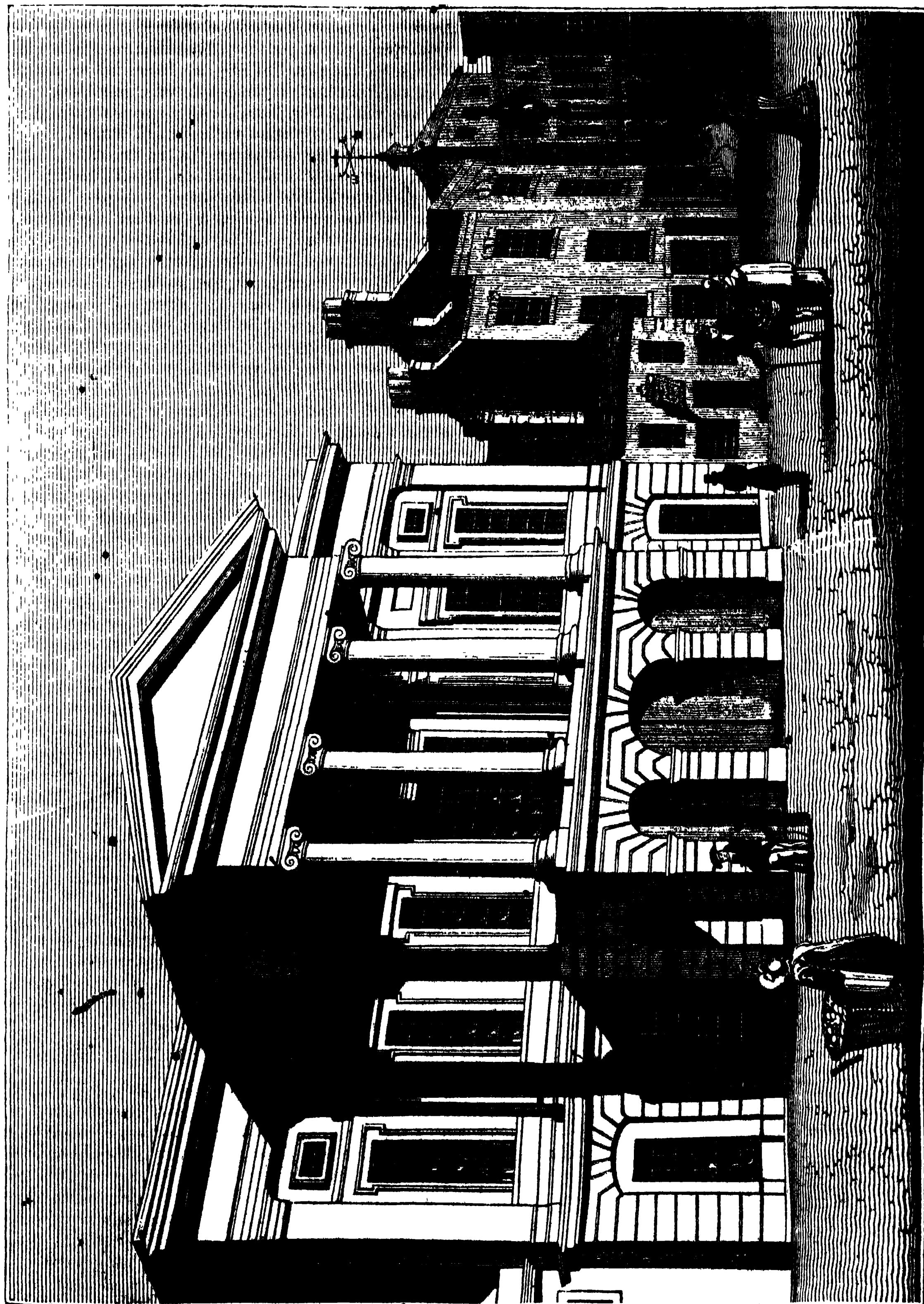
A charter granted to the town by Richard I. distinguishes Derby for intolerance above the ordinary degree so universally prevalent in that dark period. At the urgent prayer of the inhabitants, the charter enacted that they should have the power of expelling all Jews from the town, and the privilege of preventing any Jew from residing there in future. But contumely and expulsion might be considered moderation in comparison with the cruelties so often inflicted upon that unhappy race in England until their entire banishment from the country.

The most remarkable event in the history of Derby in modern times is the arrival of the Pretender in 1745, on his march to dethrone the King of England, and his subsequent retreat two days after. On this ill-concerted expedition the young prince with his small army reached the town on the evening of the 4th of December. Here he called a council; and finding the opinions of his officers unfavourable to the success of the enterprise, at the same time apprehending an attack from the Duke of Cumberland, who was rapidly approaching, he determined on abandoning his project, and retreated on the 6th, after levying between 2000*l.* and 3000*l.* on the inhabitants during his short stay.

Several religious foundations existed at Derby from an early period. A monastery of Augustine canons was founded in the reign of Stephen, and soon after removed to Derby, about a mile farther up the river, where a few ruins may yet be seen. Derby Abbey, at the dissolution, was valued at 258*l.* annual revenue. The abbot of that house founded a nunnery of the order of St. Benedict about the year 1160, which was granted at the suppression to the Earl of Shrewsbury. This foundation was erected at a spot still called Nun's Close, where ancient remains are occasionally found. A stone coffin, within two feet of the surface of the ground, containing the skeleton of a female, was dug up on the site of the nunnery about ten years ago. There was also an Abbey of Dominicans, dedicated to the Virgin Mary, in the thirteenth century,—a cell of Cluniac monks, subject to Bermondsey Abbey in Southwark, and two hospitals for lepers; but of all these no vestige remains.

The general appearance of the modern town is neat but irregular; the streets are narrow, but most of the houses are good, and some of a superior description. The streets are well paved, and lighted with gas. The town extends nearly a mile in length along the Derwent, and is about half a mile broad. The Markeaton brook runs through the town to the Derwent, and is one cause of the floods, which have occasionally produced much damage to the town. Several small bridges cross the brook, and a handsome one of three elliptic arches

traverses the Derwent. This bridge replaced the old and dangerous structure described by Hutton as very narrow, high, and difficult—dangerous to men, and fatiguing to horses. An attempt was made, about a century and a-half ago, to get at the foundation of the old bridge by turning the course of the river. This was to be effected by driving piles above the bridge, and compelling the stream to find a way elsewhere. The piles were driven;—boxes laden with clay and covered with pitch were lowered into the bed of the stream. The attempt was long persevered in, but in vain;—the river would not be controlled, and the project was abandoned: but the piles remained visible for many years after, and might be seen in a clear day within the present century. Derby is well supplied with water from springs, and also by water-works from the river. It is conveyed from the Derwent by pipes leading to a reservoir on the top of St. Michael's church, whence it is distributed through the town. The river was made navigable in the beginning of the last century; but since the formation of branch canals to the Erwash and the Trent, the navigation of the river has ceased. These branches are each eight miles and a half long.



[Town-Hall at Derby.]

The government of the town is vested in a mayor and corporation: there are ten aldermen, a high steward, recorder, town-clerk, &c. Hutton states, that in his day the burgesses loudly complained of their magistrates for pillaging their property, in converting to their private benefit the common lands which belonged to the community; "but," he observes in his quaint language, "I should hope, for the honour of my native country, that no man would steal except when he cannot be detected."

Derby is divided into five parishes, and has five parish-churches, besides a chapel of ease lately erected, a Catholic chapel, a meeting-house for Quakers, one for Swedenborgians, and several for other dissenters of various sects. Little is to be said of four of these churches, which are dedicated to St. Peter, St. Michael, St. Alkmund, and St. Werbergh: but All Saints' Church is "the pride of Derby;" and is ludicrously compared by Hutton to a "a hen between her four chickens." The tower is very lofty, being nearly 180 feet in height: it is in the later English style, is much enriched towards the top, and is surmounted by four pinnacles. On a fillet round the tower is an inscription in old English characters, beginning with the words "young men and maydens," probably from the 148th psalm, a verse of which so begins. The remainder is so defaced as to be illegible, but the visible portion is interpreted by the good people of Derby to import that the tower was built to the height of that inscription by the youths and maids of the town; and in corroboration of the fact it is stated that the bachelors used to ring the bells whenever a young woman born in the town was married. The tower was built in the reign of Henry VIII., and is furnished with a peal of ten bells and chimes. The body of the church was rebuilt, chiefly by voluntary subscription, in the years 1723, 1724, and 1725. It is a handsome edifice, but unluckily in a style most incongruous with that of the tower, being of the Roman-Doric order, with circular arched windows, divided by double pilasters, and surmounted by a balustrade. It is 130 feet in length and 83 in breadth, and is divided by a handsome screen of iron into two portions. The western end only is appropriated to public worship; the eastern division is subdivided into three parts, one of which is the vestry, a second the chancel, and the third is the dormitory of the Devonshire family, most of whom are buried in the church. The family vault received in March, 1810, the body of Henry Cavendish, of whom it was said by Sir Humphry Davy, that "since the death of Sir Isaac Newton, England has sustained no scientific loss so great as that of Cavendish." A splendid monument was erected here to Elizabeth, the clever and selfish Countess of Shrewsbury, during her lifetime, and under her own inspection: she died in 1607, aged nearly ninety years. This lady founded an hospital for eight poor men and four poor women; which, although in good repair, was rebuilt about fifty years ago by the Duke of Devonshire, and is now called the Devonshire Almshouse. The entrance to this place is too handsome for a house of charity, and has given rise to the remark, that "the simplicity and modest plainness that should exist in a structure devoted to the purposes of charity, are sacrificed to a style of architecture that would be more in character when employed in the entrance to a nobleman's park or pleasure-grounds."

An excellent infirmary was opened in Derby in 1810, in which many improvements on the usual arrangements of such places were adopted. Ventilation and cleanliness were enforced; the patients were classified, and such as were able to leave their beds were removed in the day-time to separate rooms, instead of remaining in their sleeping-wards.

The free-school of Derby is believed to be one of the most ancient foundations of the sort in the kingdom. It was founded in the reign of Henry II., and is free for sons of burgesses only. The celebrated Flamsteed received his early education in this school. The income is stated by the Commissioners of Inquiry to amount to 34*l.* 18*s.* 8*d.*, and the number of free scholars to be generally about two. A national school was established in Derby in 1812; in 1834 there were four, containing 247 boys and 156 girls; and a sunday-school, in the same connexion, attended by 140 boys and 130 girls. A Lancastrian school was also begun at the same date; and there is an infant school for twenty-five of each sex.

Derby, in proportion to its size, has long maintained a fair literary and scientific rank. The novelist Richardson was born here. The Derby Philosophical Society for the Promotion of Scientic Knowledge was begun by Dr. Darwin in 1788; it still consists of many members, and possesses an extensive and valuable library.

The engraving represents the Town Hall, lately erected in the New Market Place; the Old Town Hall was erected in 1730, and although well adapted to its object, and in good repair, it was awkwardly and inconveniently placed. The erection of the New Town Hall and Market is felt to be not only a great improvement in point of convenience, but is generally considered an ornament to the town. The other public buildings are a Theatre, Assembly Room, County Hall, and Jail. The manufactures of Derby are considerable.

As to its celebrated silk-mill, we shall only refer to No. 191 of the 'Penny Magazine,' where it is fully described. The cotton manufacture has long flourished; it was in this town that Arkwright first succeeded in weaving calicoes in 1773. A good deal of machinery for cotton manufactories and stocking-frames is made in the neighbourhood. The fabrication of porcelain employs about 200 hands, many of whom are engaged in making the fine biscuit-ware for which Derby is famous. Silk-weaving was introduced in 1827, and appears likely to be valuable to the town. Strangers generally visit the spar-works, where the fluate of lime, so well known as Derbyshire spar, is manufactured into a great variety of ornaments for halls, windows, chimney-pieces, candlesticks, &c. &c. There are nine annual fairs held in the town, and a market on Fridays.

The population in 1831 was 23,607; in 1821 it was 17,423; and in 1811, 13,043, being an increase of 35 per cent. in ten years, and of nearly 81 per cent. in twenty years: an extraordinary advance, as the number of inhabitants for some centuries had been stated at pretty nearly 8000, without much variation.

Conclusion of Sir Walter Raleigh's History of the World.—We have heard some persons speak of the following passage, which concludes the 'History of the World' by Sir Walter Raleigh, as the finest bit of prose in the English language. We do not feel quite certain on that point, but it is certainly very grand. "It is therefore Death alone that can suddenly make man to know himself. He tells the proud and insolent that they are but abjects, and humbles them at the instant, makes them cry, complain, and repent; yea, even to hate their forepassed happiness. He takes the account of the rich, and proves him a beggar, a naked beggar, which hath interest in nothing, but in the gravel that fills his mouth. He holds a glass before the eyes of the most beautiful, and makes them see their deformity and rottenness, and they acknowledge it. O eloquent, just, and mighty Death! whom none could advise, thou hast persuaded; what none hath dared, thou hast done; and whom all the world hath flattered, thou alone hast cast out of the world and despised. Thou hast drawn together all the far-stretched greatness, all the pride, cruelty, and ambition of man, and covered it all over with these two narrow words, Hic jacet."

UMBRELLAS IN THE EAST.

[From a Correspondent.

It seems difficult to understand how a busy people could ever manage without so essential a convenience as an umbrella for rainy weather; yet it is certain that they did manage, and that at no very remote period, without any such accommodation. The fact is, that an umbrella forms one of the numerous conveniences of civilized life which seem indispensable when so much time has passed since they were discovered that the contrivances which in some imperfect degree supplied their use before have passed into oblivion. We feel the convenience we possess without being always aware of the steps which intervened between it and the complete inconvenience—as, for instance, the inconvenience of being altogether unsheltered from the rain; yet, no doubt, our fathers had conveniences to obviate complete exposure on which they plumed themselves as much as we do upon our umbrellas, and that (as we know they did) they looked upon the new practice as exceedingly coxcombical, silly, and unnecessary. Very possibly some new contrivance in a future age will make our posterity look back upon the umbrella-people with the same compassion which we feel towards the people who lived before umbrella-times. The attention I have thought it worth while to give to the subject has not enabled me to make out a complete history of umbrellas; but the notices which I have collected in the course of my reading, or have obtained by personal observation in eastern countries, will still be interesting to many readers of the 'Penny Magazine,' and may tend to remove some mistaken impressions which are commonly entertained.

Notwithstanding the more stately appearance of the umbrella, it is but the child of the parasol, or rather, the original and almost exclusive use of the umbrella is that to which the parasol is now appropriated,—to afford shelter from the sun. The applicability of the same implement as a defence against rain was sufficiently obvious, but is scarcely known in the original countries of the umbrella except as introduced from Europe.

The umbrella is of Asiatic origin. Some commentators on the Bible think they can discover it in some passages where "a shade defending from the sun" is mentioned. This is not unlikely. The article has, however, from times immemorial, been so well known in all the warm countries of Asia that it is impossible to discover in which of them it originated, although there are circumstances which seem to point to a common origin. It is more in use in China than elsewhere in Asia; and when we find a practice in that country we seem naturally disposed to look there for the origin of it; but there is no evidence for the prior claims of China, nor is the point well worth investigating.

Except in that country, and in some Europeanized parts of Turkey, the umbrella is nowhere in Asia an article in common use among the people. In most of the Asiatic nations it forms a distinction peculiar to royalty, while in some others it is also conceded to persons high in authority and place, particularly to governors of provinces, who in most Asiatic countries are, for purposes of government, invested with powers almost regal.

In the farther peninsula of India the umbrella is strictly confined to royalty itself. Hence proceeds one particular in the title of the king of Ava, who, in his letters to foreign princes, declares himself to be "king of kings, to whom all kings should be obedient, he being friend and near kinsman to all the gods in heaven and earth, by whose regard for him all animals are nourished and preserved, and the seasons have their constant returns. He is brother to the sun, and the moon and stars are his near relations: he is lord of the ebbing and flowing of the sea, king of the white elephant, and lord of the twenty-four umbrellas."

This is a most exquisite specimen of the bathos, to our apprehension, but certainly not as locally understood. For the umbrella being an ensign of royal authority, their number would seem to express the number of the kingdoms and states which have been subjected to the Birman sceptre. As the above account of the title is not derived from very recent information, it would be worth while to inquire whether the number of umbrellas has since been enlarged. We may depend upon it that it has not been diminished. In this view the title, "lord of the twenty-four umbrellas," is not, in fact, more ludicrous than "lord of twenty-four thrones."

In Hindoostan, as elsewhere, the umbrella was a distinction reserved for great personages, although not exclusively appropriated to royalty itself. Sir John Malcolm observes that the title of "chattrapati," or "lord of the umbrella," is still maintained as a peculiar mark of honour by one of the highest officers in the Mahratta state. Sir John is also of opinion that "satrape," the old Persian title for a prince or governor of a province, is derived from this same word "chattrapati," and has the same signification, namely, of "lord of the umbrella or shade of state." "Chattra," which signifies an umbrella both in Persian and Sanscrit, and "pa," a contraction of "pati" (lord), though lost in the modern Persian, being preserved in the Sanscrit, shows in their combination the origin of the name. At any rate there is no doubt that the umbrella is a very old royal distinction in Persia. In the very ancient sculptures at Persepolis (which are believed to be older than the times of Alexander the Great), the chief personage—considered to be the king—in the separate pieces is (whether sitting or walking in the open air) attended by two servants who stand or walk behind him, one of them waving a fly-flap and the other grasping with both hands the long pole of a large umbrella which he holds over the royal head. The fly-flapper is always present, but not the umbrella-man, whose services seem to have been only required when the king was in the open air. In other sculptures on the rock at Takht-i-Bostan, which are less ancient than the former, although not less than twelve centuries old, there is, among others, a remarkable piece of sculpture representing a deer-hunt. In this the king is introduced rather as a spectator than as one actively engaged in the sport. He and the horse on which he sits are of colossal proportions, much exceeding any of the other figures in the piece, such being a distinction frequently conferred upon royalty in the paintings and sculptures of the East. The king has a square, bluff countenance, bearing a remarkable resemblance to our Henry VIII.; and the horse which he walks into the field is a heavy and stately thing, seeming as if modelled after some one of the magnificent cattle which condescend to drag the various "entires" of Meux and Co., Reid and Co., &c. &c., about the streets of London. Close behind the horse walks a man who holds, with both his hands, over the royal head (which is only covered with a small cap) an umbrella, having an exceedingly close resemblance to the chaise-umbrellas in use among ourselves. The king seems here to appear in state, nor does it seem as if the great horse on which he sits could ever be provoked into anything like speed; and hence we may be at liberty to hope, for the sake of the umbrella-bearer, that the king was not thus attended in his ordinary rides. We are not, however, bound to suppose that any consideration for the umbrella-bearer operated in preventing the ordinary use of the umbrella in this way,—witness the "shatirs," or running footmen, of our own time, who are bound to run on foot before the king's horse at whatever speed he chooses to ride. The umbrella is still a distinction confined to royalty in Persia.

We learn from Niebuhr that the umbrella is also a

mark of authority among the Arabs, and it was probably by them that this use of the umbrella was carried into Africa, where we still find it so employed as a royal distinction, not only among the Moorish tribes of the north, but the negro nations of the west of that continent. I may here confine my instances to the empire of Morocco, where I find the custom illustrated by a sentence or two quoted by Mr. Charles Taylor, in his 'Fragments' from the 'Life of Muley Zeerit,' a work which I have never myself happened to meet with. It is related, that as the emperor "went out of the palace gate, the violence of the wind broke his parasol; which was interpreted as an omen of the approaching end of his reign. The accident made a great impression on the old monarch himself, which, however, he endeavoured to hide, and called for another parasol." And again:—"The Effendi was careful to send to his new master the parasols, the lances, the bed of the old king, and all the other things belonging to him, which were considered as distinctive marks of barbarian royalty." Ali Bey is more precise in his information. An umbrella was among the presents which he himself offered to the Emperor of Morocco; and when, on a subsequent occasion, he describes the entrance of that monarch into Fez, he says,—"The retinue of the sultan was composed of a troop of fifteen to twenty men on horseback; about a hundred steps behind them came the sultan, who was mounted on a mule, with an officer bearing his umbrella, who rode by his side also on a mule. The umbrella is a distinguishing sign of the sovereign of Morocco. Nobody but himself, his sons, and his brothers, dare to make use of it: however I had this high honour conferred upon me." (Travels, vol. i. p. 109.) This is curious, as in some degree illustrating the sculpture at Takht-i-Bostan, already noticed, only there the umbrella bearer is on foot, whereas here he is mounted on a mule like his lord.

China and Turkey are the only countries in Asia where the umbrella has been abandoned to the people; and it is remarkable that it is only in these countries that the implement is used as a shelter from rain; elsewhere its uses are exclusively those of a parasol. In China, it is used by great personages, but not exclusively by them. In Chinese drawings we often see ladies attended by servants holding umbrellas over their heads; but it does not appear that they are much in use among persons in the middle and lower classes of society. Their broad hats render umbrellas unnecessary as a defence from the sun, and during the rainy season they wear an external dress well calculated to keep them dry, and to prevent, in a great measure, such diseases as arise from exposure to wet. There are representations of those dresses in Alexander's 'Costume of China,' the letter-press illustrations of which state that—'Boatmen, peasantry, and others, employed in the open air, are generally provided with a coat made of straw, from which the rain runs off as from the feathers of an aquatic bird: in addition to this they sometimes wear a cloak formed of the stalks of *kow-liang* (millet), which completely covers the shoulders, and a broad hat, composed of straw and split bamboo, which defends them both from sun and rain. A Chinese thus equipped may constantly defy the heaviest rain." They have also large coats of skin, with the hair or wool remaining on it, the woolly or hairy side being turned either inward or outward—but most generally outward. With such equipments against rain, umbrellas can only be requisite to persons who have occasion to go short distances in their ordinary dress. The same plate which contains the above costumes represents a soldier in his undress, sitting ensconced under an umbrella of oiled canvass, affording shelter also to a child.

Turkey is the only other Asiatic country where the umbrella is in common use, and used as a defence against rain. It is, however, only seen in the western parts of Turkey. Arriving at Constantinople, from countries further to the east, and having learnt to regard the umbrella as a mark of high distinction, I was much astonished to find it in very common use there in rainy weather. I should imagine that the example of the Europeans established in the suburb of Pera brought it into use, and much opposition to the innovation was not to be expected from the present reforming sultan. However, I had soon occasion to learn that traces still remained of the distinction so usually throughout the east associated with that article. I resided principally at Orta Köy, a village on the Bosporus, about three miles above Constantinople; and having urgent occasion one wet day to go down to Pera, I set out, umbrella in hand. On arriving at the water-side, none of the boats that usually ply between the village and the Golden Horn remained, and I was therefore under the necessity of walking all the way along the road behind the row of buildings that face the Bosporus. One of these buildings is a favourite palace of the sultan, in which he was then residing. As I approached the gate of this mansion with my umbrella over my head, I observed that one of the centinels stationed there accosted me in a commanding manner; but not comprehending what he said, I went on, on which the soldier ran towards me with his fixed bayonet levelled, and without any indication of a friendly intention towards my person. That I took it safely that day to the great city, was probably owing to the good-nature of a Turk who was walking close behind me at the moment, and who, on observing the advance of the soldier upon me, snatched my umbrella with violence from my hand, and thrust me forward, partially interposing himself between me and the assailant, who then returned to his station, and allowed me to proceed in peace. The friendly Turk, in returning my umbrella, endeavoured to explain a fact which I afterwards ascertained more distinctly, that it was incumbent on every one to take down his umbrella on passing the actual residence of the sultan. I had indeed observed with some surprise that persons walking before me had lowered their umbrellas as they approached the palace, and again elevated them when they had passed, notwithstanding the heavy rain; but without imagining that this was a matter of obligation. Now that my attention was directed to the circumstance, I failed not to observe, on subsequent occasions, that persons passing on the Bosporus in boats never omitted to take down their umbrellas as they approached in front the mansion which "the brother of the sun and moon" honoured with his presence.

Thus much for "Umbrellas in the East:" I hope, on a future occasion, you will not think a page or two ill bestowed in allowing me to trace umbrellas to the west.

Why Churches are not always built due East and West.—One end of every church doth point to such place where the sun did rise at the time the foundation thereof was laid, which is the reason why all churches do not directly point to the east. For if the foundation was laid in June, it pointed to the north-east, where the sun rises at that time of the year; if it was laid in the spring or autumn it was directed full east; if in winter, south-east; and by the standing of these churches it is known at what time of the year the foundations of them were laid.—*Chauncy's Hertfordshire.*

*** The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

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THE LÄMMERGEYER, OR BEARDED VULTURE.



[The Lämmergeyer.]

THE rapacious birds or birds of prey (*raptores*, VIG.) constitute one of the most interesting and remarkable of the families into which the feathered race is divided. Like the *carnivora* among mammalia, they have instincts and bodily powers fitting them for a life of warfare and aggression. As, however, the *carnivora* exhibit among themselves various modifications of their instincts and habits, some boldly attacking their prey, some insidiously stealing upon their unsuspicious victim, some contenting themselves, except when made daring by hunger, with the offal and putrid carcasses which chance may throw in their way, so do we find among the *raptores* the same variations. Though to a superficial eye the habits of birds of prey may seem all alike, yet to one who observes more narrowly, a multitude of details in which marked differences subsist will not fail to be presented. Some, the tigers of their race, daring, rapid, and impetuous, pursue their prey in the air, and strike it

down with a swoop to the ground. Their excellence in this kind of aërial tilting, together with their ferocity, gained for the larger species of falcons, such as the jerfalcon and the peregrine, in the days when falconry was cultivated, the highest reputation. Others, as bold as the falcon, dart silently and instantaneously upon their prey, not while it is in the air, nor by a swoop, but by a sidelong arrow-like flight, striking or seizing it while it rests unconscious of the approach of its enemy. Others, on wide and buoyant wings, sail over meadows, downs, and moors, preying upon mice and reptiles, which they mark while hovering above. Some are wholly or partially nocturnal in their habits, others gaze upon the sun with unquailing eye. But setting aside all these details, which go to divide families into smaller groups or genera, we find differences of more importance to obtain among them; for example, we find one great family universally preying upon the flesh of animals which have fallen victims to their thirst for blood. The eagle, the falcon, and the hawk refuse, unless compelled by necessity, to taste other food than that they themselves have procured; they rend the quivering fibres of their expiring victim, and drink the blood warm from its fountain. The eye of the eagle glares defiance and a dauntless spirit; the beak is deep, strong, and curved, the point bending into a sharp and formidable hook; the legs (*tarsi*), short and robust, are covered with rough hard scales; the toes, too, are also thus protected, but above all they are armed with enormous hooked and sharply-pointed talons. It is these that the eagle plunges deep into the agonizing body of his prey as he proceeds to lacerate it with his beak, and it is in their grasp that he bears off the fawn, or the lamb, or the wild fowl to his lonely eyrie; for it is seldom that the eagle (and it is the case with the falcons and hawks) attempts to satiate his hunger on the spot, unless, indeed, the animal be too heavy for him to carry off.

The vulture, as the eagle, fills up its appointed station, but the station is different; it is destined to be one of the purifiers of the surface of the land—one of Nature's scavengers, assisting the hyæna and the wild dog in a foul but useful task. Neither fitted nor inclined to lead a life of sanguinary warfare, it banquets on carrion and revels in putrescence. Like a foul-feeding glutton, it will gorge itself to such a state as to render itself incapable of resistance or flight, though when unincumbered its flight is grand and soaring. Its powers are adapted to its instincts, its beak is feeble compared with that of the eagle, the *tarsi* are more slender, and the toes longer, feebler, unarmed with huge hooked claws, and incapable of grasping a heavy weight during flight. Where the vulture finds his food, there he banquets, never attempting to carry it to his haunts. The eagle lives single, or only in company with his mate; the vulture usually congregates in bands.

Nature, however, proceeds on her march by steps—she seems (so to speak) to dislike abrupt transitions, and we find in studying her diligently, that forms blend into forms, groups into groups, by intermediate and graduated links of union. We have pictured two extremes—the eagle and the vulture; but the naturalist finds the interval between these prominent forms filled up by various forms of an intermediate character; and one of these is exhibited in the bird represented at the beginning of this article—the lämmergeyer of the Alps (*gypaëtos barbatus*, STORR.)

This fine bird, which equals or exceeds the largest eagle in size, is found throughout the whole of the great mountain chains of the Old World, being in fact, though not anywhere numerous, very widely dispersed. It occurs in the Pyrenees, and in the Alps of Germany and Switzerland, where it is notorious for its destructiveness among the lambs and kids which are fed on the green slopes of the lower ranges.

The intermediate situation assigned to the lämmergeyer, and which is aptly expressed in the generic appellation *gypaëtus* (a Greek compound designating a vulture and an eagle,) is clearly indicated in its form and general habits. Of a powerful and robust make, it has neither the bill nor the talons of the eagle, the former being elongated, and hooked only at the top, and the latter comparatively small and feeble; nor has it an exclusive appetite for blood, carrion and putrid animals being greedily devoured by it. The eagle bears off his prey,—the lämmergeyer seldom attempts to remove it, but devours it on the spot; indeed, his grasp is too feeble to permit him to manage effectually any but a trifling weight. Attracted by the carcase of some unfortunate animal which has perished among the ravines of the mountains, a number of these birds gradually congregate to share the booty, and gorge like the vulture to repletion. The lämmergeyer, however, does not confine himself to putrid flesh, but attacks lambs, kids, and the weak and sickly of the flocks with great ferocity; the strong-limbed chamois is not secure, nor when rendered desperate by hunger will the ravenous bird forbear an attack on man. Children indeed are said to have often fallen sacrifices to its rapacity. Young or small animals are easily destroyed, for though elongated, the beak is hard and strong, and well adapted for lacerating the victim; but larger animals, instead of being at once grappled with, are, as it is said, insidiously assaulted while upon the edge of some precipice or steep declivity, the bird unexpectedly sweeping upon them with fury, and hurling them into the abyss down which it plunges to glut its appetite. As illustrative of the boldness of the lämmergeyer, Bruce relates that, attracted by the preparations for dinner, which his servants were making on the summit of a lofty mountain, a bearded vulture "slowly made his advances to the party, and at length fairly seated himself within the ring they had formed. The affrighted natives ran for their lances and shields, and the bird, after an ineffectual attempt to abstract a portion of their meal from the boiling water, seized a large piece in each of his talons from a platter that stood by, and carried them off slowly along the ground as he came." Returning in a few minutes for a second freight he was shot.

There is little in the general aspect of this bird to remind one of the vulture, and yet the character of the head, and the general contour of the body, are strikingly different from those of the eagle; there is a want of dignity and quiet grandeur in its attitude, and the glance of its red eye, though keen and cruel, is deficient in that expression of daring and resolution which we admire in the feathered monarch. The bristly beard which depends from the lower mandible, tends also to give a peculiar character to its physiognomy. Of the nidification of the lämmergeyer little is ascertained, except that it selects the most inaccessible pinnacles as the site of its eyrie; Pallas states that it is known to breed on the high rocks of the great Altaic chain, and beyond the lake Baikal.

In length this extraordinary bird measures about four feet from the bill to the end of the tail, and from nine to ten in the expanse of its wings. Larger admeasurements have been given by various writers, which are probably exaggerated—none of the numerous specimens which we have seen exceeding our statement. The tarsi are short and almost hidden by the feathers of the thighs; the iris is bright red; the wings are ample, the second and third quill feathers being the longest; the tail is graduated; the head is clothed with feathers, and from the sides of the under mandible proceeds a row of black bristles, which form a

beard or pencil at its angle, and a layer of similar bristles, beginning at the eye, covers the nostrils. The general colour of the upper surface is dark greyish brown, the centre of each feather having a longitudinal dash of white. The neck and the whole of the under surface are white, tinted with reddish brown. The young birds are darker in the general hue of their plumage than the adult, and the white spots are larger and less defined; in this stage it has been mistaken for a distinct species.

The flight of the lämmergeyer, as its great bodily powers, its ample wings and tail sufficiently indicate, is sweeping and majestic. It sails around the Alpine summits, whence it marks its quarry from afar, and collecting all its energies for the onset, glides like an arrow upon its prey. If, however, it be lured from its aërial altitude by carrion, it no longer emulates the eagle in its pounce, but calmly descending to some neighbouring crag, it thence sets out, flying with heavy wings, at a short distance from the ground towards its foul repast, to be joined by others of its species. Two noble specimens in fine plumage are in the gardens of the Zoological Society; they seem to bear confinement well, and are healthy and vigorous.

Absence of Antipathies.—I am of a constitution so general, that it consorts and sympathizeth with all things. I have no antipathy in diet, humour, air, or anything. I wonder not at the French for their dishes of frogs, snails, and toadstools, nor at the Jews for locusts and grasshoppers: but, being among them, make them my common viands, and I find they agree with my stomach as well as theirs. I could digest a salad gathered in a churchyard as well as in a garden. I cannot start at the presence of a serpent, scorpion, lizard, or salamander; at the sight of a toad or viper, I find in me no desire to take up a stone to destroy them. I feel not in myself those common antipathies that I can discover in others. Those national repugnances do not touch me, nor do I behold with prejudice the French, Italian, Spaniard, and Dutch; but where I find their actions in balance with my countrymen's, I honour, love and embrace them in some degree. I was born in the eighth climate, but seemed to be framed and constellated unto all. I am no plant that will not prosper out of a garden. All places, all airs, make unto me one country. I am an Englishman, everywhere, and under any meridian. I have been shipwrecked, yet am not an enemy with the sea or winds; I can study, play, or sleep in a tempest. In brief, I am averse from nothing; my conscience would give me the lie if I should absolutely detest or hate any essence but the devil; or so, at least, abhor anything, but that we might come to composition.—*Brown's Religio Medici.*

Advantage to the Moderns.—Though there were many giants of old in physics and philosophy, yet I say with Didacus Stella, "A dwarf standing on the shoulders of a giant may see further than a giant himself."—*Burton.*

COSTUME OF NORMANDY.

The existing costumes of Normandy offer a more curious subject than might at first be imagined; for not only are they remarkably distinctive in themselves, but in the prevailing dress of the females we discover evident traces of a mode of attire which has been extinct in this country for several centuries. Our chief authorities in this matter must be the respective tours through Normandy of Mrs. Stothard and Mr. Dawson Turner; and, it is to the latter tourist that we are indebted for the indication of the analogy to which we have just adverted.

Leaving out of view the costume of the upper and middle classes of society, whose attire offers nothing remarkable, being an imitation, generally slow and awkward, of the mode which Paris sets to the nations of Europe, we shall direct our exclusive attention to the costumes which seem more particularly characteristic. Both Mrs. Stothard and Mr. Turner, in describing Rouen, have mentioned the motley groups of figures that appear in the streets of that ancient city. Among the most curious objects are the carts, which are sometimes drawn by eight or nine horses placed in a string one before another, and usually adorned with sheep skins dyed blue: from the collar projects on each side of the neck a painted board, which is sometimes ornamented with pieces of looking-glass, the whole equipage having an exceedingly odd but not unpicturesque appearance. Other carts are sometimes drawn by yoked oxen. Some of the peasants who bring vegetables from the country on horseback, without saddle or bridle, make a still more picturesque appearance. "But the best figures on horseback," says Mr. Turner, "are the young men who take out their masters' horses to give them exercise, and who are frequently to be seen on the *grand cours*. They ride without hat, coat, saddle, or saddle-cloth, and with the shirt sleeves rolled up above the elbow. Their negligent equipment, added to their short curling hair, and the ease and elasticity they display in the management of their horses, give them, on the whole, a great resemblance to the Grecian warriors of the Elgin marbles." Then appear the women with their large baskets, tempting purchasers by a rich display of fine fruits and beautiful flowers. Bonnets do not form part of the proper female costume of the country; and the men also are frequently to be seen without hats in the streets; and when their heads are covered, the coverings are of every shape and hue, from the black beaver, with or without a rim, through all the gradations of cap to the simple white cotton nightcap. They seldom wear cravats. The common people of both sexes invariably wear wooden shoes, fastened across the foot by a leather strap, with a piece of black or white sheep-skin upon the instep to prevent the foot from being galled by the pressure of the wood. "When they walk or run along the pavement," says Mrs. Stothard, "these shoes make such a clatter, that when I first arrived here, I frequently turned round, thinking a horse was immediately coming upon me."

Tourists complain sadly of the importunity and insolence of the beggars which swarm in the Norman towns. Strangers are continually beset by them, and are sometimes followed with great perseverance by eight or nine at a time, many of them displaying shocking personal distortions, deformities, and defects. Mrs. Stothard says at one place, "When we were going into the court-yard of an inn at Magny, in our road to Paris, the door-way was filled by mendicants; one man, a most dreadful deformity of nature, was seated upon an ass, begging of every person that passed by. Frequently has the stump of a hand been actually thrust in my face. A beggar once seized me by the arm, demanding money, and was ascending the stairs to follow me into my chamber, till I got rid of her by yielding a trifle to her importunity, with which she seemed dissatisfied because it was not a franc." It is much the same even while travelling on the road. The beggars station themselves upon the side of every hill; and the most interesting and agreeable of the ways in which they announce their object is by throwing a nosegay into the carriage. There is, however, no lack of more urgent applications. If the stranger is not moved by the plaintive tone with which they utter—"A small charity, if you please, ladies and gentlemen," he is attacked on the side of his devotion, and is inundated by a shower of paternosters, creeds, and Ave Marias, which fall upon him with the utmost velocity. Should all this prove ineffectual, wishes for the health and welfare of the assailed party, and for their safe and prosperous journey, are then essayed. They go through all this, according to Mr. Turner, "with an earnestness and pertinacity almost inconceivable, whatever rebuffs they may receive. Their good temper

too is undisturbed, and their face is generally as piteous as their language and tone; though every now and then a laugh will out, and that probably when they are telling you they are *petits misérables, pauvres petits malheureux, qui n'ont ni père ni mère.*" With all this they are excellent flatterers. An Englishman is sure to be '*milord,*' and a lady to be '*ma belle duchesse,*' or '*ma belle princesse.*' They will try, too, to please you by '*vivent les Anglais!*'"

It would seem that begging is practised occasionally as a favourable opportunity offers even by persons in the lower orders who do not make mendicity a profession. This is particularly the case with the women. Speaking of them, a lady who contributes some lively sketches to Mr. Turner's book, states that even the women who inhabit towns live much in the open air. Besides being employed in many servile offices out of doors, they sit at their doors or windows pursuing their business, or lounge about watching passengers to obtain charity. "Thus," proceeds the lady, "their faces and necks are always of a copper colour and at an advanced age more dusky still; so that for the anatomy and colour of witches a painter needs look no farther." We hope the lady is a little satirical here, and we apprehend her observation must be limited to the lowest of the low. We can collect that a large proportion of the young and middle-aged females, though bronzed, have very pleasing features; and in the small shops and elsewhere women that are decidedly pretty may frequently be seen. Mr. Turner himself admits, in another place, that the young are generally pretty, although the old are tanned and ugly. He



[Norman Fruit Woman.]

adds:—"The transition from youth to age seems instantaneous,—labour and poverty have destroyed every intermediate gradation; but whether young or old, they have all the same good-humoured look, and appear generally industrious, though almost incessantly talking."

In noticing the prevalent dress among the mass of the female population, we should do great injustice to the subject if we allowed it to be painted by any other hand than that of a female. We therefore give Mrs. Stothard's account:—

"It looks singular at the first view, but, when the eye is accustomed to it, appears by no means unbecoming: it generally consists of a woollen petticoat, striped with a variety of colours, as red, blue, &c; an apron also of red or blue. The jacket of the gown is most commonly made of marone, white, black, or red worsted; the long sleeves of which being sometimes perhaps of marone so far as the elbow, and the lower half of a scarlet colour. A little shawl (white or coloured), with a fringe round it, pinned in plaits upon the back, covers the shoulders. The head-dress, called the *Bourgoin*, is the most remarkable and conspicuous part of their attire. It is formed of white stiffly-starched muslin, that covers a pasteboard shape, and rises a great height above the head, frequently diminishing in size towards the top, where it finishes in a circular form: two long lappets depend from either side towards the back, and these are often composed of the finest lace. Some of the women have a piece of velvet, which fastens their head-dress under the chin, and others a riband that crosses the forehead from the cap. Several women, on Sundays or holidays, appear clothed

entirely in white instead of this costume; but they still retain their *Bourgoin*, which on such occasions is always composed of fine muslin and lace."

To this we should add that pockets of a different dye are usually attached to the outside of the petticoat, and the appendage of a key or corkscrew may often be perceived. Large silver or gilt ornaments (usually crosses) are also suspended round their necks, while long gold earrings drop from either side of their head, and their shoes often glitter with enormous paste-buckles. It must indeed be understood that the dress is by no means restricted to the lower or even middle classes, but is still preferred, or at least a modification of it, by many females in the higher walks of life. Speaking of it, Mr. Turner says, that there is a manifest resemblance between it and the attire of the women of England in the fifteenth and sixteenth centuries. This is particularly apparent in that species of the *Bourgoin* which forms part of the grand costume of a Norman woman, the very prototype of which may be found in Strutt's 'Ancient Dresses.' "Decorated with silver before and with lace streaming behind, it towers on the head of the stiff-necked complacent wearer, whose looks appear beneath arrayed with statuary precision. Nor is its antiquity solely confined to its form and fashion; for, descending from the great-grandmother to the great-grand-daughter, it remains as an heir-loom in the family from generation to generation."

We cannot well conclude this notice of Norman costume without bestowing a few words on the fishermen of Pollet, a suburb of Dieppe; the following particulars concerning whom are derived from a passage which is given by Mr. Dawson Turner as a translation from a French history of Dieppe.



[Norman Peasant.]

Three-fourths of the natives of Pollet are fishermen, who are not less distinguished from the mass of the citizens by their name of Poltese (taken from their place of residence), than by the difference in their dress and language,—the simplicity of their manners, and the narrow extent of their acquirements. To the present day, they continue to wear the same dress as in the sixteenth century. This consists of trousers covered with short wide petticoats, which open in the middle to afford room for the legs to move, and woollen waistcoats, laced in the front with ribands, and tucked below into the waistband of their trousers. Over these waistcoats is a loose coat, without buttons or fastenings of any kind, which falls so low as not only to cover their petticoats, but extends a foot or more beyond them. These articles are usually of cloth or serge, of an uniform colour, and either red or blue; for they allow no other variation, except that all the seams of their dress are faced with white silk galloon, about an inch in width. To complete the whole, instead of hats, they wear on their heads caps of velvet or coloured cloth, forming altogether a dress which, while it is evidently ancient, is in a considerable degree pleasing and picturesque. Thus clad, the Poltese have the appearance of a distinct and foreign colony; while, continually occupied in fishing, they have had no share in the changes and extended civilization which circumstances and the lapse of time have diffused over France. They are indeed scarcely acquainted with 400 words of the French language, and these they pronounce with an idiom

exclusively their own, adding to each an oath by way of epithet,—a habit so inveterate with them, that even at confession, at the moment of seeking absolution for the practice, it is no uncommon thing with them to *swear* that they will be guilty of it no more. To balance, however, this vice, their morals are uncorrupted, their fidelity is exemplary, and they are laborious and charitable, and zealous for the honour of their country, and equally so in behalf of their priests, in defence of whom they once threatened to throw the Archbishop of Rouen into the river, and were well nigh executing their threats.

The wood-cuts in this and the preceding article are from original sketches by Mr. Delamotte.

CHINA.—No. VIII.

THE BAMBOO, CAMPHOR TREE, AND OIL PLANT.

THE BAMBOO.—Although no production of China is of so much importance to us as tea, there are others of equal or perhaps superior value to the Chinese themselves, and the bamboo may be classed among them. In the hands of the Chinese, the bamboo may almost be denominated a universal material; for they perform with it operations the most various and dissimilar that can well be imagined. This reed, in its entire state, is formed into stools, chairs, tables, bedsteads, and many other articles of furniture. It supplies scaffolding for building, masts and yards for shipping, carts and wheelbarrows for husbandry, wheels and tubes for irrigation. Split into laths, or beaten into fibres, it forms screens for ornament, and ropes, cords, and twine for all purposes,—from the rigging of a ship to the wick of a candle. Woven, it becomes a sail-cloth or a sacking; macerated into a pulp, it is made into paper; and mixed up with lime, it serves to caulk their ships. By simply tying together four of these reeds, swimming-jackets are constructed capable of supporting one or more persons, and a machine is thus made for the prevention of drowning, equally efficacious with our more elaborate life-preservers. When young, it affords a nutritious article of diet; when growing, it is a fence for their gardens and fields, a protection for their cottages, and an ornament for their palaces. It is the weapon of justice and the instrument of oppression, supporting equally the authority of the mandarin and the arrogance of the petty official. It almost seems that, without its use, the machinery of government would stand still, and the Chinese would want many of those accessories to comfort which separate the civilized man from the savage.

THE CAMPHOR-TREE.—One of the useful and magnificent productions of the vegetable kingdom that enriches China, and more particularly the provinces of Kiang-si and Canton, is the *laurus camphora*, or camphor-tree. This stupendous laurel, which often adorns the banks of the rivers, was in several places found by Lord Amherst's embassy above fifty feet high, with its stem twenty feet in circumference, and with branches not less than nine feet in circumference. The Chinese themselves affirm that it sometimes attains the height of more than 300 feet, and a circumference greater than the extended arms of twenty men could embrace; but the English found no instance that justified their description. Camphor is obtained from the branches by steeping them, while fresh cut, in water for two or three days, and then boiling them till the gum, in the form of a white jelly, adheres to a stick which is used in constantly stirring the branches. The fluid is then poured into a glazed vessel, where it concretes in a few hours. To purify it, the Chinese take a quantity of finely-powdered earth which they lay at the bottom of a copper basin; over this they place a layer of camphor, and then another layer of earth, and so on until the vessel is nearly filled, the last or topmost layer being of earth. They cover this last layer with the leaves of a plant called *po-ho*, which seems to be a species of *mentha*. They now invert a second basin over the first, and make it air-tight by luting. The whole is submitted to the action of a regulated fire for a certain length of time, and then left to cool. On separating the vessels the camphor is found to have sublimed, and to have adhered to the upper basin. Repetitions of the same process complete its refinement. The camphor obtained from this tree is less valued by the Chinese themselves than that imported from Borneo. Mr. Clarke Abel conjectures that the preference proceeds from the adulteration of the article by the Chinese manufacturers, since the mode of refining is well known. Besides yielding this valuable ingredient, the camphor-tree is one of the principal timber-trees of China, and is used not only in building but in most articles of furniture. The wood is dry and of a light colour; and, although light and easy to work, is durable and not liable to be injured by insects. Further particulars, with a wood-cut of this tree, may be found in the 'Penny Magazine,' No. 66.

THE OIL-PLANT.—The *camellia oleifera*, called by the Chinese the *tcha-yeou*, of "the oil-bearing tea-plant," has the same habitats and grows in precisely the same soil as the tea-plant, and resembles it in most of its botanical characters. It produces much of the oil used by the Chinese, which is described as pure and esculent. It is cultivated in large plantations, and seems to flourish best in a red sandy soil, where, except the tea, few other plants will grow. This beautiful shrub is sometimes as large as a moderate sized cherry-tree, and seldom less than six or eight feet high. It bears a profusion of blossoms, which are large, single, and purely white, and give at a distance the appearance of a grove lightly covered with snow. The oil is contained in the seeds of the plant; and it may be remarked that the seeds of the tea-plant also yield oil; nor, according to some writers, is this the only resemblance in the useful properties of the two plants. Mr. Clarke Abel concludes that the leaves of the camellia, having undergone the same preparation as the leaves of the tea-plant, are used by the Chinese as tea; and Kæmpfer asserts that a species of the camellia is used in Japan with tea, to which it gives a high flavour. The mode of cultivation is supposed to be the same with both plants, and where the tea-plant might be introduced, there also would the camellia flourish. This beautiful and useful plant was brought to England by some gentlemen of Lord Macartney's embassy. It was here considered to be the same as the *camellia sesanqua* of authors; but Mr. Abel is of opinion that it is quite distinct.

The simple process by which the oil is extracted from the seed is thus described by Mr. Clarke Abel:—"The seeds are first reduced to a coarse powder by one of several methods. Sometimes they are pounded in a large mortar by a weight at the end of a lever, acted upon by the cogs of a water-wheel. At others, they are crushed by a horizontal wheel, having small perpendicular wheels shod with iron fixed to its circumference, and acting in a groove lined with the same metal. When sufficiently ground, they are put into bags and boiled, or rather stewed a short time, and are then transferred to the press, where they yield the oil. The press is of very rude construction: it consists of the hollowed trunk of a tree, open at one end, and having two square holes morticed in its sides, opposite each other. It is so supported that the upper end is higher than the other. When the oil is to be expressed, one of the bags is put into the trunk and pushed back to its depressed end. Semicircular pieces of wood are then introduced through the mortices, and,

meeting, form a circle, which is equal to the circumference of the hollow. Several of these are successively introduced, and fill up the interval between the bag and the mortices, and some space beyond. They are then driven back with great force upon the end by the means of bars and wedges of wood, forced in by an immense hammer in the form of a battering-ram. The oil runs from the press through a small opening in its depressed end.

Habit.—We are so wonderfully formed, that, while we are creatures vehemently desirous of novelty, we are as strongly attached to habit and custom. But it is the nature of things which hold us by custom, to affect us very little while we are in possession of them, but strongly when they are absent. I remember to have frequented a certain place every day for a long time together: and I may truly say that, so far from finding pleasure in it, I was affected with a sort of uneasiness and disgust: I came, I went, I returned, without pleasure; yet if by any means I passed by the usual time of my going thither, I was remarkably uneasy, and was not quiet till I had got into my old track. They who use snuff take it almost without being sensible that they take it, and the acute sense of smell is deadened, so as to feel hardly any thing from so sharp a stimulus: yet deprive the snuff-taker of his box, and he is the most uneasy mortal in the world. —*Burke*

LAWS OF MERCIA.

Sir Henry Chauncy in his 'Historical Antiquities of Hertfordshire,' published in 1700, mentions that the kings of Mercia often resided and kept their court at Berkhamsted, in that county. He also speaks of a parliament or great council which was held there, under Withred, king of Kent and Mercia, in the year 697, in which Birthwald, Archbishop of Canterbury, presided, and at which all the prelates and military men assembled. Gough has corrected Sir Henry as to the place of assembly, which was really at Bursted, near Maidstone. All the rest is right. We have selected a few of the enactments which were agreed to on this occasion, and which seem to contain some curious illustrations of the condition of the people under the Saxon rule. The predominance of ecclesiastical influence is very visible in some of the regulations.

If any shall enfranchise his servant at the altar, he shall be free and capable to inherit, and shall be manumised without limit.

If any servant, by command of the master, shall do any servile work after the sun shall be set on Saturday, or on Sunday, the master shall pay 80*s.* for the fact. If a servant shall travel on either of those days*, he shall pay 6*s.* or be whipped. If a freeman shall travel on a day forbidden, he shall stand in the pillory, and the informer shall have half, as well of the mulct as of the wirgil.

If a husbandman, without the knowledge of his wife, shall offer anything to the devil, he shall forfeit his estate and stand in the pillory; but if both of them shall offend, she also shall lose all her goods, and stand in the pillory. If a servant shall offer anything to the devil, he shall lose 6*s.*, or be whipped.

If any person shall give flesh to his servant to be eaten on a fast day, his servant shall be free. If any servant shall voluntarily eat it, he shall either pay 6*s.* or be whipped.

If a secular man shall kill a thief, no composition shall be made by the kinsman of him that is slain. If any freeman carrying away anything that is stolen, the king shall choose any one of those three punishments:—either that the thief shall be slain or banished beyond the seas, or rather his wirgild, (which was the value of his head or life) and he who apprehended him shall have half his goods; but if he shall kill him, he shall pay 70*s.* If any servant shall be robbed, and shall suffer the thief to escape, he shall pay 70*s.*, or ———, which the king pleases; but if any one shall slay him, his master shall have half his goods.

If any stranger shall wander privily through the country, and shall neither cry aloud nor sound his horn, he shall be taken for a thief, and shall either be slain or banished.

* This is only to be understood of after sunset on Saturday.

THE READING ROOM.

British Museum.

As very few even of the ordinary visitants to the British Museum have been in the Reading Room, or are acquainted with its regulations, it occurs to us that a short statement on the subject may be very acceptable to some of our readers. Increased as the collection has been by the gift which the late king made to the institution of the books and manuscripts collected by his father, the library of the British Museum is now one of the most valuable in Europe, both in manuscripts and printed books. The number of the persons who desire to avail themselves of the benefits it offers has more than increased with the increase of the collection; and instead of the dozen or so of students and inquirers who formerly rendered the business of the librarians little other than a sinecure, the Reading Room is now daily crowded with a mixed multitude, who keep in constant and active employment a large body of intelligent persons appointed to attend to their wants.

The Reading Room at the Museum is situated at the end of the library, with which it is connected by large folding-doors. The readers, however, never enter the library unless as ordinary visitors, the entrance being by a small private door on the first floor of the building, which is reached by a steep exterior flight of stone steps. The door at the top conducts to a lodge where the readers leave their umbrellas, and where there is a porter in attendance who keeps an account of the number of persons who enter, which enables the institution to report to Parliament every year the number of visits paid to the Reading Room. Although the readers are admitted by ticket, renewable every six months, the tickets are not shown at each visit to the porter, as he, or the persons attending in the room, can easily, after the first visit or so, distinguish the persons entitled to admittance.

The Reading Room itself is a large and lofty oblong apartment, lighted by a range of large windows along each side, and at the farther end; all in the upper story, if we consider it as divided into two by a railed gallery which extends along the sides. The room is however very unequally lighted, in consequence of one side being overshadowed by the high brick wall of one of the wings of the main building. This is not a disadvantage, as it enables the readers to choose the light which they prefer. A partition divides the room into two unequal apartments, of which the outermost is the largest. The whole below the gallery is lined with grated presses, filled with encyclopedias, lexicons, grammars, biographical dictionaries, county histories, papers printed by order of the House of Commons, and other works, which are so frequently required for reference as to render it inconvenient that the general rule of the establishment should be applied to them. The presses being therefore unlocked every morning, the students are allowed to consult them or fetch them away without the usual application to the attendants. A few of the presses are left unoccupied, and in these, in order to save trouble, the readers are at liberty to deposit such of the books they have had as they may require for use on a following day; but this does not preclude them from being taken away, if applied for by another person when not actually in use by him by whom they have been thus partially appropriated.

The extent of the Reading Room is occupied by two rows of long and broad tables covered with green baize, which are separated from each other by a wide passage in the middle, and by narrower passages from the presses which line the walls on each side. There are eight comfortable leathern-bottomed chairs to each table, and as there are fourteen such tables, there are regular seats for 112 persons, or we may say 120, as there are

two or three small tables in places where room can be made for them. This is hardly sufficient accommodation at present, and must before long be wholly inadequate. Persons who come later than one o'clock can scarcely discover a vacant seat, and are often obliged to put up with some supernumerary contrivance. The number of seats will give no correct idea of the number of daily visitors to the Reading Room, as a large proportion of the early comers go after two, three, or four hours, and others who come late fill their places. It appears, indeed, that the average number of daily visitors amounts to about 235; for the return made to Parliament in the last session gives 70,266 as the total number for the year preceding, and this being divided by nearly 300 days in which the library is open, gives the above number as the result. The amount for that year was an increase of 11,466 on the year preceding: the rate of increase has been similarly progressive for several years past*, and must very soon render extensive additions to the present accommodation necessary.

It is well for the student who comes to the Museum to have a previous knowledge, not only of the title of the work which he requires, but with the name of the author. Without this preparation his case is a sad one, and would be nearly hopeless were it not for the assistance which Watt's 'Bibliotheca Britannica' may render, and without which we are verily persuaded there would have been a rebellion against the library catalogue long before this. Very audible murmurs there have often been. The fault is, that the books are registered, not according to their subjects, but under the names of the authors, without even so much classification as is used in the catalogues of booksellers, or of subscription and circulating libraries. Such catalogues of which usually divide themselves under such heads as History, Travels, Poetry, Fiction, &c., still however retaining the alphabetical arrangement of names in the divisions. This would be a help, though a poor one; but the Museum Catalogue is rigidly an unclassified list of names throughout, except where the work happens to be anonymous, when it is entered under the head of its subject. That the force of this disadvantage may be the more clearly apprehended, we will endeavour to illustrate it by a familiar example.

Suppose A. B. wishes to consult the 'Decline and Fall of the Roman Empire,' but has forgotten, or never knew, the name of the author. How is he to proceed? Before he asks for it, he must not only ascertain that it is in the library, but also how it is entered in the library-catalogue, as his application will only be accepted in the form of that entry. If A. B. is unacquainted with the catalogue, he will probably propose to look for it under the head "History," and the subdivision "Roman History;" or he will expect to find it in such a form as this:—"Roman Empire, Decline and Fall of, by ———," if he supposes that there is no particular classification, but a continuous alphabetical arrangement of subjects throughout. With these reasonable expectations, he must needs be "perplexed in the extreme" when the real character of the catalogue becomes known to him. The work he wants is entered thus:—"Gibbon, Edward, History of the Decline and Fall of the Roman Empire;" and, as he has forgotten the name, what is Peter to do? Some charitable person may perhaps refer him to Watt's 'Bibliotheca' for the information he requires; and although he feels that the catalogue of such a library as that of the British Museum ought not to need such assistance, he is glad of the relief which it affords. That others have been glad of it before A. B. is evident to him from the well-worn appearance it presents. As many of our readers must be unacquainted with the kind of assistance which the work in question is calculated to render, we may as well mention it here. Watt's 'Bibliotheca' is a work in four closely-printed quarto volumes, published in 1824, at the price of eleven guineas. The two first volumes contain an alphabetical list of the names of more than 40,000 authors, and under the name of each author is entered a list of his works and the date of the different editions. The two last volumes contain an alphabetical arrangement, according to subjects, of the works inserted in the former volumes under the names of the authors; and it includes also such works as have been anonymously published, and which could not therefore be included in the former volumes at all. When the subject is large, there is an internal classification; as, for instance, under the name of any country, the works which illustrate its history, language, manners, &c., with topographical descriptions of it, and travels in it, are classed separately under proper heads. This great work, on which its learned compiler was employed for nearly twenty years, is of incalculable value to students, notwithstanding the occasional errors, from which it can hardly be expected that a work of such extent and character should be exempt. The time and trouble which it saves may be easily estimated by one who needs information concerning books which have appeared since the completion of the 'Bibliotheca,' and concerning which it of course can afford no information. It is highly desirable that a continuation, in the form of appendices to this important work, should be published every five or ten years.

But where is A. B.? He found the work he wanted in the fourth volume of the 'Bibliotheca,' in the subdivision of "History," under the head Rome, and was there also referred to the page and part of page in the previous division, where he might find the same work entered under the name of the author. He thus obtained all the information he required, and was enabled to discover the work even in the chaos of the Museum catalogue. This catalogue was printed between the years 1813 and 1819, in eight octavo volumes, and published at the price of four guineas. The copy at the Reading Room has the octavo pages pasted on folio leaves, with an alternate blank leaf, so as to leave room for the insertion of additional works with the pen as they arrive; the volumes are so crowded with such manuscript additions, that a new edition cannot much longer be dispensed with; and in preparing it we are very sanguine in our hope that another and more rational arrangement will be adopted.

When a reader has found the work he requires, he copies on a slip of paper the form in which it is entered in the catalogue, and signs it with his name. Such tickets are left upon a table, whence they are fetched by persons whose business it is to find in the library the books which have been applied for and to take them to the Reading Room, where they are received by another set of persons, who are always in attendance in the room, and whose duty it is to distribute the books to the students who have applied for them. They are well acquainted with the persons of the readers, and rarely deliver to one the books intended for another. The promptitude with which printed books or manuscripts are obtained varies much with the time of the day; and the delay, though sometimes considerable, is probably rarely greater than results from the extent of the library and the multitude of the demands.

* The number of visitors to the Reading Room was 1950 in the year 1810; 8820 in 1820; and 31,200 in 1830.

*** The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

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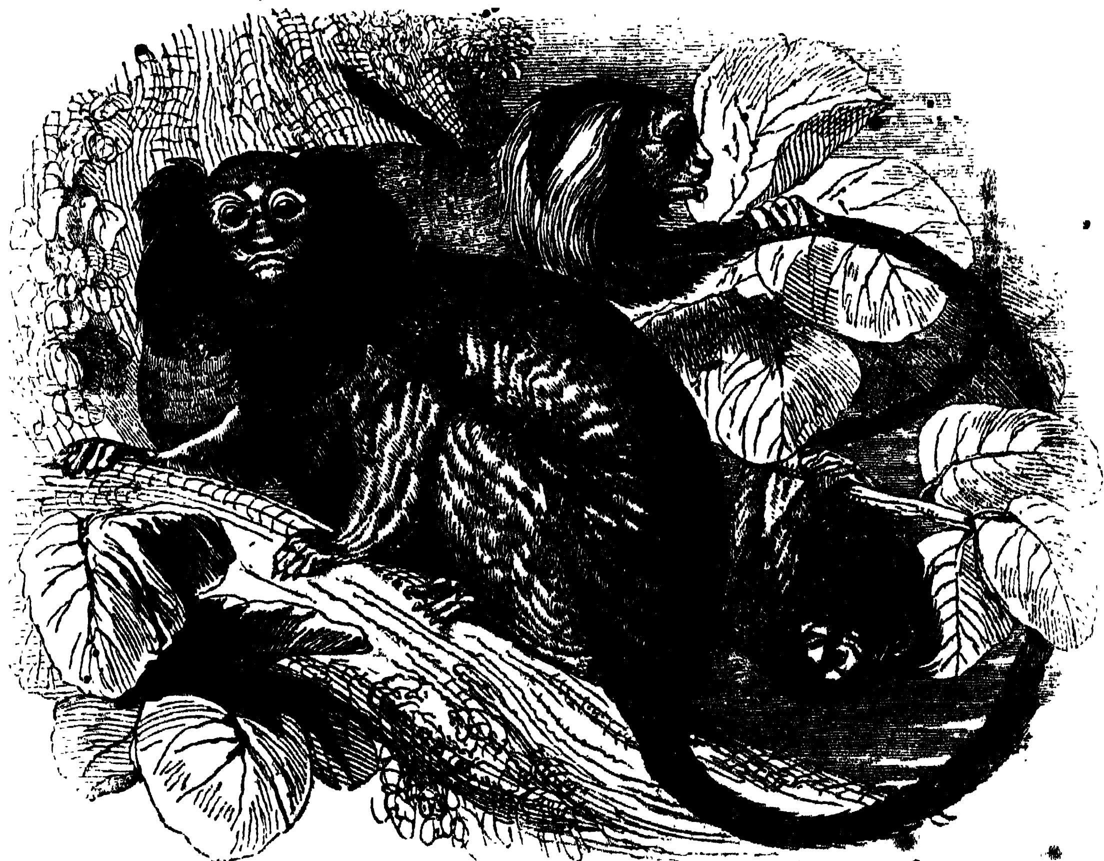
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THE OUISTITI, OR MARMOZET MONKEY.



[Marmozet Monkeys.]

EVERY large group of which the animal kingdom naturally consists will be found upon examination to resolve itself into divisions of a subordinate character. It is to one of these divisions in the family *simiadæ*—a family comprehending the monkey and ape tribes—that we invite attention. The *simiadæ* are essentially natives of the hotter portions of the globe; they abound in the inter-tropical regions of Asia, Africa, and America, and are expressly arboreal in their habits. Awkward on the ground, they display among the branches the most astonishing address and activity. Not only do the hands, fashioned like those of man, at least to a certain extent, possess the power of grasping, but the hind feet are hands also; they have a true thumb opposable to the fingers, and possess in an equal, nay, superior, degree the same power with which the anterior hands are so well endowed; hence Cuvier has termed these animals *quadrumana*, or four-handed. Like every other natural group, however, the *simiadæ* are made up of a collection of minor groups, each having its distinguishing characteristics. This will at once be evident to any one who compares the orang—a climbing animal, the whole of whose organization adapts it for an arboreal abode and for that only—with the baboon, which, though alert and active among the branches, is at ease even on the ground, where he scampers along on all fours like a dog. The Ouistiti, the subject of our present examination, forms one of the boundary groups of this family. It constitutes one of the forms of the American section of the *simiadæ*, a section characterized by most marked peculiarities. These we may briefly enumerate as consisting in the roundness of the skull, and the flatness or slight degree of projection which the facial portion exhibits,—in the lateral aspect of the nostrils which open on the sides of a broad flattened nose,—in the absence of cheek pouches, and of the naked callous skin which, in the monkeys of the Old World, covers the tuberosity of the ischiatic bone, and in the possession (except in the ouistiti) of two additional molars in each jaw, the number of the teeth being in all thirty-six. It is among the forms of this section that we meet with the prehensile tail, given as an accessory organ of grasping, together with a departure in the structure of the hand from its perfect model. In the genus *ateles*, embracing the spider monkeys with prehensile tails, the thumb is wanting, or reduced to a mere rudiment beneath the skin; while in other genera the hands can no longer retain this appellation, being in fact like the

fore-paws of a squirrel: such is the case with the ouistiti.

There is something in the general appearance and manners of the ouistiti which, together with its diminutive size, tends to produce a strong resemblance to the squirrel. It is true that the head is not squirrel-like,—being round, and possessing the character of the American *simiadæ;* but the full, soft fur which clothes the body,—the beautiful tufts of hair which ornament, in most species, the sides of the head,—the long, bushy tail,—the little fore-paws, and the crouching or semi-erect posture assumed in eating, cannot fail to suggest the resemblance. How wide a difference is there between these little animals and the orang with his long, powerful arms, or the ferocious baboons! The ouistitis inhabit the woods of the hotter portions of the American continent, and especially such as border the Amazon and the other great rivers. Their beauty, their diminutive size, and the ease with which they become reconciled to captivity, render them great favourites even in their native regions, where they are sold, especially in the large towns, to the Spanish colonists at a considerable price. The smaller species, some of which may be entirely covered by a common-sized breakfast-cup, are especially valued. In their native woods, they feed upon fruits, insects, and small reptiles; indeed their teeth have decidedly an insectivorous character, the crowns of the molares presenting sharp conical elevations instead of rounded tubercles. These elegant creatures have little of that restless curiosity, that petulance and maliciousness, which are so conspicuous in the monkey-tribes in general; neither have they that activity for which these tribes are so remarkable. They do not bound from branch to branch with bold and vigorous leaps, yet are they quick and nimble in their actions, which more resemble those of a squirrel than a monkey*. They produce two or three young ones at a birth, which they nurse with great care and attention. Their voice (exerted only in fear or anger) is a sharp whistling cry, resembling the word *ouistiti*, whence their appellation.

M. Geoffroy St. Hilaire has divided this group into two genera, namely, *jacchus* and *midas*. The former genus is characterised by the pointed form of the lower incisors, which equal the canines in length,—by the bushiness of the tail, which is ringed with dark and white,—and by the very large tufts of hair which ornament the ears. The second genus has the incisors with cutting edges, and less than the canines: the fur is generally less full, especially upon the tail, which is not ornamented with rings.

The species which we have figured at the head of this article is the common ouistiti, [illegible]mozet (*jacchus vulgaris*),—one of the most eleg[illegible] of the group, and one which is most frequently brought to this country. A very good description is given of it by Parsons in the 47th volume of the 'Philosophical Transactions,' and subsequently it was figured by Edwards in his 'Gleanings.' Speaking of one which came under his own observation, he informs us that it fed upon various articles of diet, as biscuits, fruits, pulse, insects, and snails;—and that, being one day at liberty, it darted upon a small gold fish which was in a bowl, killed it, and greedily devoured it. After this, small eels were offered to it, which at first frightened it by twisting round its neck; it however soon overcame and ate them. In the first number of the 'Magazine of Natural History,' (1822) an interesting account is given by Mr. Neill of the habits of one which he purchased at Bahia (the capital of the province of San Salvador in Brazil) and brought to England. At first it displayed great wildness and fierceness, "screeching most vehemently when any one dared to approach it;" and "it was long before it was so reconciled, even to those who fed it, as to allow the slightest liberty in the way of touching or patting its body; and it was almost impossible to do this by surprise, or by the most steady and cautious approach, as the monkey was not steady a moment, but was constantly turning its head round from side to side, eyeing every person with the most suspicious and angry look. Its sense of hearing appeared to be exceedingly acute, so that the slightest whisper was sure to arouse it." This individual was probably adult when captured; for of the many we ourselves have seen none have exhibited anything like such violence of disposition. Its diet consisted of fruits, such as bananas, mangoes, and Indian corn; but when, during the voyage, these failed, it eagerly fell upon the cockroaches, of which it effectually rid the vessel. "It would frequently eat a score of the largest kind, which are two or two and a-half inches long, and a very great number of the smaller ones, three or four times in the course of the day. It was quite amusing to see it at its meal. When he got hold of one of the large cockroaches, he held it in his fore-paws, and then invariably nipped the head off first; he then pulled out the viscera and cast them aside, and devoured the rest of the body, rejecting the dry *elytra* and wings, and also the legs of the insect, which are covered with short stiff bristles. The small cockroaches he eat without such fastidious nicety. In addition to these we gave him milk, sugar, raisins, and crumbs of bread." From London it was taken to Edinburgh, where it throve perfectly well; and contrary to the account of Linnæus, who says it is an enemy to cats, made acquaintance with one, with which it fed and slept, and lived on the best terms imaginable. Though it became gradually tamer, it never lost its original wildness and distrust.

Edwards observes, that this animal breeds in captivity in the southern portions of Europe; but we can add, from our own knowledge, that the ouistiti breeds, if properly taken care of, even in our northern climate. In 1832 a pair bred in the gardens of the Zoological Society, and produced twins, which, however, died. An instance has also come under our notice this present year of a pair having bred, producing twins, as in the case of those at the Zoological Gardens just alluded to, one of which was reared, and is now nearly full grown. M. F. Cuvier gives an account of one in the menagerie at Paris, which in 1819 produced three young ones at a birth; and other instances are also upon record.

A captive in our country, the ouistiti spends no little portion of its time in self-protection against the cold, of which it is very sensible. All the wool, cotton, or other soft materials with which it is furnished, it will carry, as we have often observed, to some convenient corner of its cage, and there bury itself completely in the downy mass, from which it will peep out on a person's approach, but can seldom be induced to emerge altogether, unless tempted by food; for it is not inquisitive, and seems rather to shun than court observation, and evidently dislikes to be disturbed or driven from its comfortable nest, returning to bury itself again as soon as possible.

The sensibility of the ouistiti to cold is indeed remarkable; and nature has provided it with the means of protection against the chilly nights and inclement seasons, which are often very severe in its native climate. Not only is its fur full, soft, and warm, but its long, bushy tail, which is not strictly prehensile, is an additional and important means of comfort: this it twines round its body, (which it gathers into as small a space as possible,) passing it under the belly and chest, and bringing it round on the back over one of the shoulders. In this position the animal resembles a ball of fur, with a little head projecting from it.

* "The [illegible] marmozet" is an apt expression in [illegible].

In size the ouistiti, or marmozet, is less than our common squirrel; the general colour of the body is brownish grey, faintly barred with a lighter hue, the full, bushy tail being alternately ringed with brown and white. The head is brown, the forehead white; the beautiful tufts of hair which envelope the ears are white also; the ears themselves being round, thin, and naked. This little creature is a native of Brazil and other portions of South America.

Of the genus *midas* one of the most beautiful species is the *marikina (midas rosalia)* from Surinam; it is of a fine golden yellow colour, the hair about the shoulders and neck being long and silky, and the tail terminating in a black tuft,—hence it is known under the title of the lion monkey: there is, however, nothing else of the lion in the appearance of this beautiful little creature. It does not live long in our changeable climate, but has been known to exist for five or six years with care at Paris. Both the genera *jacchus* and *midas* contain numerous species; but a general sameness of habits and manners runs through them all.

MECHANICS' INSTITUTES.

Advantages of Instruction in Arts applicable to Manufactures.

The evidence taken before a select committee of the House of Commons on the state of arts as applied to manufactures among the people of this country, has been printed. The witnesses examined generally admit the inferiority of our artizans in those departments of industry in which taste and originality of design are more particularly called for.

Some twelve or fourteen years ago, when a great impulse was given to improvement by the general establishment of mechanics' institutes, the objections which were then current to the extension of education, had they been listened to, would by this time assuredly have placed the country in a most unfavourable position: so true it is that if any of the springs of improvement are weakened a check is given to the whole of society, and other nations outstrip us in the race. This they have done most clearly as respects popular education.

Since the period to which we have alluded the opponents of education have changed their tone. After having opposed the education of the people *in toto*, they now admit that a little reading and writing, and perhaps also some knowledge of arithmetic, will do no great harm. They desire, in fact, strictly to confine the information of the working-classes to matters relating, as they think, only to the narrow circle of their daily labours. In this country, popular education, and the machinery for rendering it efficient are not in so high a state as in many parts of the continent; and the consequence is that the strongest of all motives—necessity—is at this moment spurring us on to extend still farther the field of knowledge to the working-classes, and that with an urgency which demands immediate attention. It has become quite evident that the means must be provided by which our artizans may at least equal those of other countries; and those who did not oppose their being taught reading and writing, which either may or may not be directly serviceable in a man's calling, will not, on their own principle, object to artizans knowing something of chemistry, optics, botany, anatomy, or the rules of design and perspective, as the case may be, when these are branches of knowledge with which their avocations lead them into daily connexion. It is certain that, owing to a defective acquaintance with these subjects, and the general inadequacy of existing means thoroughly to correct the evil, some of our manufactures do not come up to that standard of elegance in point of design which the public taste demands; and that, in order to gratify this refinement, the productions of foreign industry are preferred solely in consequence of the superiority in this respect.

But not only is it desirable to give the English artizan opportunities of acquiring knowledge on matters relating to his particular occupation,—to the working optician an acquaintance with the laws of optics,—to the dyer some insight into chemistry, and so on; but in order to place him on a level with the foreign artizan, our industrious countrymen ought, by a more liberal admission to museums and exhibitions, to be won to a love and taste for the higher efforts of art, and a relish for the beautiful wherever it exists.

On the continent, and particularly in France, there is a more general diffusion of the principles of art than in this country; and yet, here, owing to the great commercial importance of our manufacturing interests, there is the utmost necessity for our taking the lead in every department of excellence, in beauty and elegance of design as well as cheapness, and in the general appearance of the fabric as well as the goodness of its material. We are often excelled by other countries on the first of these points, simply because on the continent there are public schools for teaching the art of design, and men are trained up to give instruction in it in connexion with manufactures. The art of design as applied to manufactures is checked in this country in consequence of there being no protection for a limited period for the man who produces a pattern of acknowledged superiority. Cotton prints are protected for three months, but in various other branches of manufacture,—the silk trade, the stove-grate and fender trade, and the silver-plated trade,—all of which depend to a great extent upon the art of design, there is comparatively little or no encouragement for persons to pay a high price to artists for patterns which are dishonestly appropriated by other manufacturers the moment they are made public. The talent of our artists is not therefore directed to the improvement of manufactures, although it might be, with the utmost advantage to the country and to individual interests. We trust that in no very long time we shall see the sources of improvement freely opened, and the skill and talent in connexion with manufactures making rapid advances, after some temporary impediments to their course have once been removed.

In the meantime, it may be useful to have the means of comparing the opportunities of developing a love of art in other countries, with those enjoyed in England, and to be apprised of the grounds on which improvement is needed. For this purpose, we gather the following materials from the Parliamentary Report.

At Bruges, there are six or seven hundred young men belonging to the poorer classes, who are educated gratuitously every evening during the week in drawing, and in the arts generally; and once a year prizes are given to the most deserving pupils in each department of art, an honour which is rendered more flattering by a public procession through the town on the prize-day. Bruges is a manufacturing city, and the taste which is first formed in the drawing-school is afterwards visible in the manufactured productions. And in the other large towns of Belgium similar institutions are productive of the like advantages. At Antwerp the Sunday-schools are attended by about seven thousand children, who are not only instructed in reading and writing, but also in drawing; and if any of these children evince a natural taste for the latter pursuit, their talents are immediately cultivated, and are afterwards profitably directed in sustaining the reputation of the domestic manufactures; and the encouragement does not stop here, for if more than ordinary genius is evinced by any pupil, the opportunity is afforded at the public expense of pursuing a course of study calculated to develop and mature it. Thus fostered, talent has

emerged into eminence from the poorest ranks of the people.

At present such advantages as the above are not enjoyed in this country, and hence the inferiority of our artisans. If art can once be brought fairly into alliance with manufactures of every kind, a vast field will be opened for the display of taste and talent, which is now entirely latent, or but imperfectly called into life.

The silk manufacture offers perhaps the most ample opportunities for the display of taste and ingenuity. It is susceptible of such a variety of colour in the blending of shades, and exhibits to so much advantage the designs of the artist, that the superior advantages enjoyed in France are manifested more strongly perhaps in this branch of manufacture than in any other. Mr. Smith, of the well-known firm of Harding, Smith and Co. of Pall-Mall, stated to the committee, that in silks they sold, of plain goods, two-thirds of English to one-third of French; whereas in fancy silks the superiority of the patterns in French goods occasioned the sales to be in the proportion of one-half or more of French; and while our portion consisted of articles of a cheaper and more commonplace character, that which we imported from France was distinguished not only by richness of design, but was altogether fabricated of more costly materials; and fairly enjoyed the highest reputation and brought the greatest profit. This is also true of fancy ribands, three-fourths of those sold being of French manufacture, and obtaining public favour solely on account of superiority of design. It is not surprising that this should be the case, when we are acquainted with the methods adopted in France to stimulate artists and artizans, and the abundant opportunities which they enjoy for perfecting their taste, and are told, on the authority of the Mayor of Coventry, that at Foleshill, where there are about seven thousand persons engaged in the riband manufacture, that gentleman found on investigation that there was not one individual amongst the number who was capable of making an original design, and not more than six who were capable of copying a pattern. It may be mentioned to the credit of the inhabitants of Foleshill, that the result of this inquiry caused them to make exertions for the establishment of a school of design, in order to remove one of the sources of their inferiority.

The preference for silks and ribands of French manufacture is not a prejudice; and Mr. Smith says,—"In placing fancy articles before persons, which I do promiscuously, that is chosen which is most liked, without the question being asked whether it is French or English."

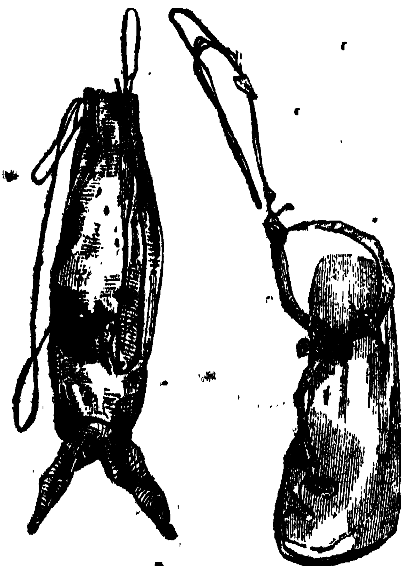
We are also surpassed by the French in the finer kinds of shawls; and Mr. Skene, the Secretary to the Board of Trustees for the Encouragement of Manufactures in Scotland, thus accounts for the fact:—"There is at this moment (he says) a school in Paris, where about seventy pupils are instructed expressly in the art of designing shawl patterns, which is taught by a person who has written a pamphlet on the subject." The French therefore excel us because their attention is directed in a more efficient manner to raising the value of the article by superiority of design. Much more than reading and writing is requisite to enable our artizans to compete with them; and the Report contains abundant proof of the importance of a knowledge of particular sciences in perfecting manufacturing processes.

The following extract from Mr. Skene's evidence shows the manner in which an acquaintance with optics, and with the theory of colours, would enable us to advance nearer to perfection. Mr. Skene says,—"It appears to me that one thing in which the British manufacturer is most deficient is that of a knowledge of colours. At present, as far as my acquaintance with manufacturers goes, I believe they copy entirely their patterns from France; in doing so, if they introduce any alteration into them, they often spoil them, and we know quite well that any deviation from the regular established and fixed rules of harmony of colours produces the same effect to the eye as any deviation in music from the harmony of notes. It produces an equally bad effect; and in placing our manufactures of fancy goods along with French fancy goods, it has often struck me as a remarkable circumstance to see how very little those rules, which are exceedingly simple, are attended to in the English copies." A few lectures at a Mechanics' Institute would at least do something towards correcting this defect in the designs for our manufactures.

[To be concluded in our next.]

THE BEDOUIN ARABS.

The word, which is variously written Bedouin, Bedoween, Bedowin, or Bedwin, is a corruption of an Arabic word, which signifies "a native of the desert," and which is appropriated to the Arabian tribes that wander in the deserts of Arabia and North Africa, living always in tents in those places where they can find water and pasturage for their cattle. Each tribe is in general considered to have an exclusive property in a district, the extent and value of which is proportioned to the strength and importance of the tribe, and which, in that proportion, are commonly large, affording sufficient room for the migrations which are indispensable among a people whose subsistence is principally derived, through their cattle, from the spontaneous produce of the sterile regions they inhabit. We thus find the same tribe generally seated in the same territory, unless in those instances where any particular tribe has been displaced by another more powerful than itself, or unless the distinctive character of a tribe has been lost in consequence of any deep dislike to its sheikh, or the hope of an advantageous change having induced its members to join some neighbouring tribe, which is always glad to receive such additions to its strength. It will be understood that our present remarks apply exclusively to these desert Arabs, whose character and habits are considerably different not only from those of the Arabs who inhabit towns but also from those of the tribes who, living on the borders of settled districts having much intercourse



[Skin Vessels of the Arabs.]



[Bedouin Arabs.]

with the inhabitants of towns, and being in some degree controlled by the vicinity of an organized government, give their attention, during at least one part of the year, to agriculture, and exhibit the peculiar characteristics of their race in a form vitiated in some respects and softened in others. This class of people have in general acquired little more than the vices of the condition of life to which they approximate, without having lost any of those which belonged to their original condition.

As might be expected from the extent of country which they inhabit, the personal appearance of the Bedouins varies considerably in different and distant tribes. Speaking generally, however, they may be described as a middle-sized and rather thin race of men, with brown complexions and strong black hair. It is rather rare to see a tall man among them, and still more rare to see one corpulent. Indeed we do not remember ever to have seen what we should call a fat man, although men of considerable muscular stoutness may occasionally be seen. The muscles of the limbs, particularly the legs, are in general strongly developed, sometimes giving them an appearance disproportioned to the rest of the body. Their strength is very considerable, and their activity and alertness still greater, but their powers of abstinence and endurance of fatigue are more remarkable still, and are hardly exceeded by those of their own camels. They can often travel four or five days without tasting water, under circumstances in which two days' abstinence would be death to a European. Their deep black eyes glare with an intensity such as is perhaps never witnessed in our northern regions, and so as to make a sensible impression on a stranger, who remembers with full credence the most marvellous stories he may have heard of their extraordinary powers of discriminating vision, and the acuteness of their other senses. They in general shave the head, leaving only the customary lock on the top, for the sake of affording a convenient hold to Mahomet when he shall raise them to Paradise. Their beards are very short and thin, which is no small calamity to them, considering the value they set upon that appendage, and the care with which they cultivate it. We have often been amused in witnessing the mingled shame, indignation, and envy with which they have regarded the long bushy beards which have in their opinion been so unworthily and partially bestowed upon the countenances of their Persian neighbours, while their own are so scantily furnished. They make the most of what they have however. They anoint and cherish it with care, and each particular hair in it is to them "dear as the ruddy drops" of their heart's blood. To spit upon their beards, even by accident, is an offence scarcely within the limit of things that may be forgiven; and the threat of depriving a Bedouin of that appendage is sufficient, on the one hand, either to render him "a fugitive and a vagabond," or, on the other, to ensure his submission to any extortion and injustice.

The dress of the Bedouins is *striking* and characteristic. It consists generally of a shirt, a cloak, and a head-dress. The *shirt* is of coarse cotton, wide, and with large and loose sleeves. These shirts are rarely, we may say never, changed or washed, and the necessary consequence ensues, that, as a people, they are much infested with a certain "familiar beast to man," the hunting of which forms one amusement of their superabundant leisure in which they are much interested. The wealthier sort of people sometimes wear the common Turkish gown of cotton or of mingled cotton and silk; but the bulk of the nation are content with a sort of mantle over the shirt. This mantle is a very curious article of dress. It is generally called an

"abba," and is manufactured principally at Bagdad. It reaches from the shoulders to the middle of the leg, and is nearly as wide as long, or even wider, resembling nothing so much as a square sack open in front, and with slits on each side for the arms to be put through; but they seldom are so. It is wide enough to envelop two or three bodies instead of one; and is generally worn loose and open in front. These mantles, which are of various qualities and patterns, are woven with hard-twisted woollen thread, or with camels' hair. One sort, thin, light, and white, is occasionally worn under the other, and is also used sometimes by Turks and Persians as a convenient article of summer dress. Some are quite black, the finer sorts being interwoven with gold, and embroidered with the same or with coloured silk. Those in most common use are brown, or in alternate broad vertical stripes of white and brown, white and blue, white and black, &c. We do not feel able to say distinctly that the tribes are distinguished by the pattern of their cloaks, like the Highland clans by that of their plaids, but it certainly did appear to us that in each neighbouring tribe a cloth of a different colour prevailed; the shirt underneath this cloak being confined around the waist with a cord, or with a broad leathern or woollen girdle. Drawers or trowsers are regarded as superfluities; and the Arabs are almost always barefoot, although they may occasionally be seen with the common Turkish red shoes or yellow boots, which they hold in considerable esteem, but do not at all number among the necessaries of dress. Their head dress consists of a stout square kerchief of silk or silk and cotton mixed. It is made for the purpose, and the pattern is usually in broad alternate stripes of dull red and bright yellow, or yellow and green. It is fringed with long knotted cords, and when in use is folded triangularly, and so placed on the head that one corner hangs down the back, and the two others fall on the forepart of the shoulders, so that they can be used to shelter the face from the sun, wind, or rain, or to conceal their features, if they wish to be unknown. This dependent kerchief with its knotted cords gives to the Bedouin a wild and *maney* appearance, singularly in keeping with their character and countenance. It is confined to its place by a long and thick rope of camels' hair or brown worsted, which is wound several times around the head.

This is the summer dress, and often that of winter also, except that the *abba* is then frequently brought close around the person by means of the girdle which usually confines the shirt. But in many parts it is also usual, as mentioned by Burckhardt, "to wear over the shirt a pelisse made of several sheep skins stitched together; many wear these sheep skins even in summer, because experience has taught them that the more warmly a person is clothed, the less he suffers from the sun."

The Bedouins generally encamp near some rivulet or well, where they remain until their cattle have consumed the herbage. But when, as sometimes happens, good pasturage occurs where no water is to be had, they abstain from water for several weeks together. They drink only milk; and their cattle are also able, with the exception of horses, to dispense with water so long as they can get green and juicy herbage. The encampments vary, in the number of tents and the form in which they are arranged, according to circumstances and the season of the year. When the tents are few in number, they are usually pitched in a circle; but more commonly in straight lines when numerous, particularly if the encampment is formed near a rivulet. In winter, when the abundance of water and herbage renders concentration unnecessary, the camp is dispersed over the plain in groups of three or four tents, about a mile or a mile and a half asunder. When the camp is together near the only water in the vicinity, the cattle are sent out under the care of shepherds and slaves. They are brought back every evening while the herbage remains unconsumed in the immediate neighbourhood. But if they prolong their stay beyond a few days, the flocks and herds are sent out to a considerable distance, and are only brought back to the tents every second or third day for water. When the pasture has been wholly consumed, or only remains unconsumed at too great a distance, a removal becomes necessary.

Burckhardt, to whose intimate acquaintance with the Arabs we are in this article indebted for several details to supply deficiencies in our own information, gives the following description of a tribe on its march:—"When I was returning from Tadmor towards Damascus, I met, on the same day, two strong encampments moving slowly over the sandy plain in search of water and pasture; their order of march was as follows:—A party of six horsemen preceding the tribe about four miles, as a reconnoitring detachment, the main body occupied a line of at least three miles in front. First came armed horsemen and camel riders at 150 paces from each other, extending along the whole front; then followed the she camels with their young ones, grazing in wide ranks during their march upon the wild herbage; behind walked the camels loaded with the tents and provisions; and the last were the women and children, mounted on camels, having saddles made in the shape of cradles, with curtains to screen them from the sun. The men indiscriminately rode along and amidst the whole body, but most of them in front of the line; some led horses by the halters: in depth these wandering bodies extended about two miles and a half. I had seen them encamped when on my way to Tadmor, and then estimated one at about 200 and the other at 250 tents; the latter had above 3000 camels. Of all the Arabs I did not see one on foot, except a few shepherds, who drove the sheep and goats about a mile behind the main body."

Our present wood-cut, which is copied from M. Léon de Laborde, will serve well to illustrate this description. It represents a caravan on the move. The men on the ground have alighted to discuss the inferences which may be deduced from certain foot-marks which they have discovered in the sand.

Their tents are in general from twenty to thirty feet long by something less than half that breadth. They are divided into two apartments by a sort of white woollen carpet, or whatever else is convenient for the purpose. One of these is appropriated to the men and the other to the women. The men's apartment is spread with carpets, and the corn-sacks and camel-bags are there piled up in a pyramid, and the pack-saddles are placed here also for the men to lounge against as they sit on the ground. The room of the women is much less neat and comfortable, being crowded with all the lumber, provisions, and domestic utensils of the tent. The covering of the tent usually consists of stuff made with black goats' hair, and, when in good condition, affords a very adequate protection, not only from the sun, but from heavy rains.

The furniture of the Arab tents is characteristic of the people and their way of life. It consists of pack-saddles and riding-saddles, both for camels and horses, and of bags of hair and leather, with an abundant display of buckets, bottles, and pitchers of the latter material. These articles, together with sundry ropes, a wooden mortar for pounding coffee, a hand-mill, a coffee-pot, a copper-pan, and some wooden dishes, complete the list of utensils necessary to the domestic existence of an Arab. Among these various articles there is none that more strongly attracts the notice of a stranger than the various vessels of skin. There are sometimes large

water-bags made of tanned camel-skin; but the skins in most general and diversified use are those of the goat and kid. The bucket is of leather with which they draw water from deep wells; and not only their water, but their milk, butter, cheese, dates, and other articles of provision are carried and retained in skins. Such vessels are not only more portable and less liable to damage in travelling than any other kind of vessel they could obtain, but in their opinion (which we believe to be correct) they preserve their different articles in a state of greater freshness. Their larger water-bag is most usually the skin of a he-goat; while one from a kid is used as a bottle for occasional use during a day's journey, and commonly hangs suspended from the saddle. The most common sort make a curious appearance when full of water, resembling an animal, the head and feet of which have been cut off. The manner in which the Arabs, and others who use such vessels, obtain them without seam is very simple. When the animal is killed, its head and feet are cut off, and the carcase is drawn out of the skin without the belly being opened. These are not the only or most curious uses to which the Arabs apply the skins of goats. We have seen them cross rivers supported on a single skin inflated with air, while they used their feet as propellers, and carried their clothes in a bundle on their heads.

THE LAGO MAGGIORE.

[Concluded from No. 232.]

Next to the Isola Bella, the most important of the Borromean islands is the Isola Madre, which stands out in the lake and in the midst of the other islets like a mother surrounded by her children. We always preferred this island to its proud rival. Nature has had more of her own way here, and the few works of man's art that are upon it have more simplicity than the palaces and terraces of the Isola Bella. As we approached it in our boat on a fine day, but late in autumn, it wore a most picturesque aspect. It rose from the lake in the form of a flat irregular cone; a small plain white villa, near the summit, appeared through a little forest of trees that were still green and in full leaf—a summer-house just peeped through festooned vines and dwarf cypresses, and the whole was so fresh, verdant, quiet, and secluded, as to present almost a realization of the beau ideal of a summer retreat. As we rowed round the isle we observed on the southern side five long hanging gardens, some shrubberies and bowers growing in a natural manner, and some vividly green groves of oranges and citrons; on the northern and more exposed side was a considerable wood of old beech trees, flanked and broken here and there, with laurels and other evergreens; on the western side were more laurels and some beautiful cypresses. A great number of pheasants and guinea-fowls were seen running through the wood, and now and then rising on the wing for a short flight. Except two or three old gardeners, these were the only inhabitants we saw on the Isola Madre. The house was shut up, looking melancholy and deserted, as if it had not been inhabited for a long time. We are surprised that no one of our English families, who have found out and taken possession, for a season, of so many neglected places on the continent, should never have fixed on this beautiful retreat. It is a place where a moderate income might suffice, and we should fancy the Borromeo family would have no objection to let, to proper persons, what they seldom or ever use themselves.

The Isola di San Giovanni, or the Isolino (small island), is pleasantly situated: it lies close in-shore, where it is protected by some hills from the more violent Alpine winds, and it is but a very short distance from the town of Palanza, which stands at the head of a picturesque little promontory, some of its smiling white houses and its vineyards and gardens being on the very margin of the lake. In our time there were only two comfortable pretty little cottages on the island, and they were inhabited by a few peasants who attended to some orange and citron groves. A part of the Isolino seemed to be uncultivated. Under the direction of a good taste, and with very little expense, the place might be made a little paradise.

From either of these islands a short row or sail in a boat conducts us to one of the many pleasant towns that are planted so thickly round the lake. Besides Baveno, with which we began our brief sketches of the Lago Maggiore, Sutra, Palanza, Feriolo, Stresa, Belgirato, and Lesa, are close at hand on the eastern shore; and a few miles farther on is the remarkable little city of Arona, the birth-place of that truly good and great man St. Charles of Borromeo, whose colossal statue in bronze stands on a neighbouring hill. Within this limited district there is a great deal, besides magnificent or beautiful scenery, to interest the beholder. In several places that system of parapet and terrace cultivation, by which steep hills are made productive from their bases to their very summits, is carried to curious perfection. This is particularly the case at Sala, than which it would be scarcely possible to find a steeper and at the same time better cultivated mount. The pains originally taken must have been immense. The hill is girdled or hooped in by a succession of walls of regular masonry, or made of blocks of stones put together in the Cyclopean fashion without cement; these walls twine round like a corkscrew, rising above and retiring backward from each other according to the form of the mount, and so as to leave flat terraces of earth between the upper edge of one row and the face of another row of walls. Without these walls the hills would be washed bare of earth.

In some instances the industry of those who made these ascending terraces, that rising step above step look like a gigantic flight of stairs, is truly admirable, seeing that they carried up the soil from the plain below to lay upon the upper garden plots. When people talk about the indolence of the Italians and their love of the *dolce far niente*, they should make large exceptions. The Jesuits and other Catholic missionaries who settled in China described this terrace arrangement, or system by which the steep sides of mountains are covered with cultivation, in terms of the most enthusiastic admiration, and as being peculiar to the celestial empire; although, in fact, without looking at other countries, but confining ourselves to Italy alone, this is far from being the case. The precipitous sides of many of the mountains that hem in the lake of Como are rendered productive in the same manner; the same system obtains among the industrious Genoese in many parts of their steep coasts, and we have traced it, here and there, nearly all through the Apennine chain.

The geological structure of all this district is very curious. In the rear of Baveno there are some immense quarries of granite, which have been worked for many ages, and which still supply an inexhaustible store of materials. Some of the inhabitants of Baveno, Feriolo, and Montorfano, are stone-cutters; and nearly every family in Trefiume, another small town, is exclusively occupied in the granite-quarries. They frequently find beautiful rock crystals, white and flesh-coloured feldspars, and zeolites. It is said that the blocks of granite are positively charged with electricity on their eastern side, that they are negative on the west side, and that they preserve these qualities long after they are cut and removed. Many of these blocks, when first detached, are of enormous size; but, notwithstanding the hardness of the granite, the cutters of Baveno and Trefiume divide and carve them up with

great facility. The lake and the river that runs from it afford an extensive and convenient water-carriage; and the granite blocks, slabs, coignes, columns, &c., form an important branch of trade to Baveno and the neighbourhood. This trade was created and the quarries first dug by the great San Carlo Borromeo, who, though canonized after his death by the Roman Church, did not neglect while living those things that tend to the temporal well-being of men, or consider commerce and the arts as incompatible with the pursuit of an eternal welfare. It were better for mankind if the same could be said of all those who are assumed to have lived and died in the odour of sanctity. This holy and enterprising nobleman was a sound statesman and a thorough man of business. He had an insight into some of the great truths of political economy even in the sixteenth century (the period in which he lived), and fortunately he was so rich, that he could always employ capital.

There are two fine specimens of the Baveno granite in the Duomo, or cathedral of Milan. These are two columns, each being twelve feet in circumference and forty feet high, and each cut out of a single block. These columns have taken a polish almost like marble, so compact and hard is the material.

A short trip inland, either from Baveno or Palanza, will take the traveller to the village of Candoglia, near to which are the quarries that supplied the white marble of which the Duomo of Milan (a mountain of marble in itself) was built; but here, and in the contiguous mountains, remains marble enough to build churches and palaces for the world! The heavy material is still excavated, and is used extensively in Lombardy. The transport to Milan is effected in a most convenient manner, and wholly by water. The river Tosa, which is navigable for large rafts and barges, runs near the chief quarry, and then falls into the Lago Maggiore. At its southern extremity, the lake disembogues by the important river Ticino; and a fine canal, called the Naviglio, branches off from the left bank of the Ticino and runs on to Milan,—the capital and centre of a rich and fertile country.

When we first visited the Lago Maggiore, in the year 1820, steam-vessels were unknown there; five or six years later, one small boat of the kind began to ply; and we understand that there are now three or four small steamers in almost constant employment. Starting however from Baveno or Palanza in an ordinary row-boat, the tourist in a few hours can trace the lake upwards to where it penetrates, in a deep nook, towards Lugano and the mountains of the Italo-Swiss canton of Tesino, at which point the Alpine scenery is magnificent; and, in an equally short time, starting from the same point, he can go down the lake to the river and the canal, where the views, over a rich champaign country, are altogether different.

We would recommend every one going on from the Simplon to Milan, and who may not have leisure to examine the shores of the lake in detail, to cross over from Baveno to the still more romantic little town of Laveno, which is nearly opposite. We did so; and never shall we forget the delight we experienced in the course of an evening hour we spent at the quiet, comfortable inn of Laveno, that stands close at the water's edge. The close of that evening was delicious. As we stood on a projecting terrace at the inn, the sun went down in all his majesty. The white snow of the Alps, that had been so dazzling a few hours before, assumed its mild, pure, "rose hues;"—the lake spread itself out as a sheet of purple, at once deep and clear in tint, which was varied here and there with broad stripes of golden yellow;—the lakeward windows of the many houses in the towns round the shores glittered brightly, and the walls of the buildings changed their whiteness for the warm, harmonizing tints of evening. The Borromean Islands lay full before us, looking more beautiful from the effects of distance and that glorious even-tide. Close to our left, and almost under the inn, the lake forms a most tranquil miniature bay, and a fairy-like promontory stretches out towards the islands, fringed with pleasant trees. We were standing there at the touching moment of the "Ave-Maria," or vespers, and the melancholy toll of several church and convent bells boomed across the wide waters. A party of labourers, who had been unloading a boat, ceased from their work at those sounds for prayer, and muttered the "*De profundis*," and a few moments after two barks went by,—their crews singing the vesper-hymn to the Virgin. The bells from the old towers continued their mild, pleasingly-sad toll for awhile, and then all was silent as the summit of those Alps which began to disappear in the deepening shades of night.

We hope such pictures as these will not be considered idle or misplaced. Many thousands of the readers of the 'Penny Magazine' may not be enabled to cross the Alps. Some of the circumstances of our picture are local, or dependent on forms of religion; but we trust that whatever tends to create or keep alive a feeling for the beauties of nature and scenery has some good in it; and we know by experience that many of the charms described on the Lago Maggiore may be felt in our own native land,—by the banks of the Thames, Severn, or Tweed,—on the shores of the Westmoreland and Scotch lakes,—and in a vast number of other places. In our own particular, it is not the least of the blessings for which we are thankful that the recollection of the beautiful and the grand, seen many years ago, still warms our heart with happiness. In the same way many a poor man might lay up a large fund.

We cannot at present continue the journey onward to Varese and Milan, but there was one trifle that struck us, and may be worth mentioning. All along the road from Laveno, we saw, at every cross-road, good finger-posts, with rather a pretty device: on the arm pointing along the post-road was painted a courier, galloping on horseback; and on the arm pointing to cross-country roads, a pedestrian, with a stick in his hand and a knapsack on his back. In certain parts of England, we have often been puzzled to know whether a road was passable for carriage or horse, or not. The main road to Varese and Milan is kept in admirable order.

Dreams.—I am no way facetious, nor disposed for the mirth and galliardize of company; yet in one dream I can compose a whole comedy, behold the action, and apprehend the jests, and laugh myself awake at the conceits thereof. Were my memory as faithful as my reason is then fruitful, I would never study but in my dreams; which times I would also choose for my devotions: but our proper memories have then so little hold of our abstracted understandings, that they forget the story, and can only relate to our awaked souls a confused and broken tale of that which hath passed.—*Brown's Religio Medici.*—We do not know whether this phenomenon is usual or not, but we remember, during a mild fever, to have experienced something very similar. Connected scenes and circumstances of such intense interest and marvellous beauty were presented to our apprehension, that it would assuredly have been alone sufficient to have won for us a name in the world, if it had been in our power to have recovered the details and committed them to paper in the form of tales when we awoke. The beauty of the thing of course lay in the complete development and proper connexion of the story—bursts of mere fancy and excitement being common in dreams.

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BEDOUIN ROBBERS.



[Bedouin Robbers.]

"Freedom's fierce unconquered child,
The Bedouin robber, nursling of the wild.
With whirlwind speed he guides his vagrant band,
Fire-eyed and tawny as their subject sand:
On foam-bossed steeds impetuous all advance;
Whirl the bright sabre, couch the quivering lance;
Or, grasping, ruthless, in the savage chase,
The belt-slung carbine, the spike-armed mace,
Ardent for plunder, emulate the wind,
Scour the lone level, spurn the world behind;
While the dense dust-cloud rears his giant form,
And, rolled in spires, reveals the threatening storm."

Grant's 'Arabia.'

In the 'Penny Magazine,' No. 141, an account was given of the principle and practice of the Bedouin Arabs in their depredations upon travellers and caravans. This was only one branch of the extensive subject of Arab depredation. Our former statement tended to show how true it was that the Bedouin's hand was against every man, and every man's hand against him. But it is no less true that the Bedouin's own right hand is against his left hand, and his left hand against his right. Among them

"————The natural bond
Of brotherhood is sever'd as the flax
That falls asunder at the touch of fire."

Their depredations against each other are conducted on a more organized system, actively in force, than is witnessed in their attacks on caravans and travellers. It is a mistake to consider the Arabian tribes as leagued together in war against all that is beyond the pale of their own barbarism. They war, but are not leagued in war. There is no union among them. The country is to be viewed as a vast desert apportioned amongst distinct tribes continually at strife with each other, and continually exposed to each other's depredations. And this state of things has continued so long, that the whole matter of mutual depredation has become a subject of definite regulations, which, by heightening the adventure of the business, and diversifying the possible results and contingencies, make it a sort of game in which no one suffers disgrace but the loser.

As we are less able to speak from personal observation on this than the former branch of the subject, we shall claim the assistance of Burckhardt's 'Notes on the Bedouins,' in so much of the present article as refers to their depredations on one another. It may be well, however, to remind the reader that there is no form of robbery or theft which a Bedouin considers disgraceful. The attempt to plunder one another is considered a fair and honourable undertaking even by

him whose property is the object, and who exerts himself to defeat it, and to turn it to the best account for himself that he can. In fact, no discredit attaches to robbery under any circumstances, or upon any person, except when it is committed by an Arab upon one who is actually in his tent. Robberies by Arabs upon their neighbours, in their own camps, and upon their own tribe, are of continual occurrence, nor does such an act leave any stain upon the character of a Bedouin; but neither do they add much to his glory, which must be chiefly won by robbing his own enemies or the enemies of his tribe; and these are almost identical terms, for an individual difference very commonly ends in a misunderstanding between tribes.

If an Arab intends to go on a predatory excursion, he takes with him a dozen friends who all clothe themselves in rags, in order that, if they should be captured, they may have a chance of being unknown, and their ransom proportioned to their apparent condition in life. This trick has grown so stale, however, that it seldom avails, unless under peculiar circumstances. Each man takes a little flour, some salt, and a small skin of water, and thus slenderly provided they often make journeys of eight days from their own camp. When they arrive about evening at the camp against which their enterprise is directed, three of the most daring of the robbers are dispatched towards the tents, at which they take care to arrive about midnight, a time when most Arabs are asleep. The others are to await their return within a short distance of the camp. Each of the three principal actors has an allotted department of duty to perform. One of them, called the *Mostambeh*, gets behind the tent that is to be robbed, and endeavours to attract the attention of the nearest watch-dogs. When he has succeeded, they immediately assail him, on which he takes to his heels, and the dogs pursue him to a great distance. The premises being thus left unprotected, another of the three, who is emphatically styled the *harami* or "robber," advances towards the camels, and cutting the cords which confine their legs, makes them rise from their knees. An unloaded camel always rises and walks about without making the least noise. The *harami* then leads one of the she camels out of the camp, and the others always follow of their own accord. Meanwhile the third of the adventurers (called *kayde*) stands at the door of the tent with a club ready to knock down any one that comes out. As soon as the *harami* has performed his duty, the other joins him in driving off the prey. When they have got to a little distance, each of them seizes one of the strongest camels by the tail, which they pull with all their might. This causes the beasts to set off at a gallop, dragging the men along with them, and followed by the other camels at the same pace, till they arrive at the place where the other men are waiting; then, leaving the camels with them, they hasten to relieve the *mostambeh* from the dogs. As many as fifty camels are often stolen in this manner without any alarm having been given. The robbers reach home by forced marches, travelling night and day, and in the ultimate division of the spoil, the chief of the party and the three principal performers get an extra portion.

In an adventure of this daring character it sometimes happens that one or more of the robbers are surrounded and seized; and the treatment to which they are then subjected furnishes illustrations of some of those very peculiar usages which, like their conventional hospitality, seem to have been devised to avert that utter desolation and the entire disruption of every national bond which must have resulted from the unmitigated operation of the system on which they live. Immemorial custom has established the usage in the desert, that if any person who is in actual danger from another can touch a third person, or any inanimate thing which he has in his hands, or with which he is in contact, or that if he can but touch him so indirectly as by spitting upon him, or throwing a stone at him, at the same time exclaiming *Ana dakheilak!* "I am thy protected!" that person is bound by every principle of honour to grant him the protection he demands. A robber who has been captured is naturally always on the watch for an opportunity of taking the benefit of this regulation; and the captor is equally anxious to deprive him of the advantage. The result is curious. The prisoner is compelled by blows, if words fail, to renounce his right to claim this protection. But this renunciation is only valid during the day in which it is made, and he is therefore obliged during every day of his detention, to repeat the renunciation to every one who enters the tent in which he is confined. The object of his detention is to extract the highest possible ransom from him. For this purpose, as well as for his safe custody, and to prevent his opportunities of claiming protection, a grave two feet deep is dug in the tent in which he is laid with his feet chained to the ground, his hands tied, and his hair fastened to stakes on each side of his head. This grave is crossed with poles, upon which are heaped all sorts of heavy goods, leaving only a small opening over the robber's face. The food he receives is barely sufficient to keep life in him. His perseverance in concealing his name, if he is of a wealthy family, and in pleading poverty, sometimes prolongs his confinement in this way for as much as six months; after which the captor gets tired, and lets him go on comparatively moderate terms. The imprisonment seldom lasts so long as this however. He is also liberated on easy terms, or even without any ransom, if his life seems endangered by imprisonment; for if the man dies in fetters, his blood is considered to rest on the head of the captor. The man sometimes contrives to disengage himself from his grave, and escape to a neighbouring tent, from the owner of which he claims protection. Occasionally he obtains this advantage by contriving from his hole to spit on some person whose protection he has not renounced; or if a child happens to give him a morsel of bread, he is entitled to claim the privilege of having eaten with his liberator. Sometimes he is recognised, and is obliged to give up all his cattle and movables as a ransom. His friends do not fail to exert themselves to the utmost in effecting the liberation of the captured robber, either by force, or by the numerous ingenious contrivances which form almost the only channel through which the Bedouins have opportunity to manifest the talent and ingenuity with which they are as amply endowed as any nation under heaven.

A very common method of relieving the captured robber from his grave is that one of his relations, commonly his mother or sister, goes to the camp in which he is confined, and is received into one of the tents in the privileged character of a guest. Having ascertained in what tent her relation is confined, she takes an opportunity to introduce herself at night with a ball of thread in her hand, and approaching the pit manages to put one end of the thread into his mouth, or fastens it to his foot, and then retires, winding off the thread as she goes. She proceeds to some neighbouring tent, and awakening the owner applies the thread to his bosom, and says, "Look on me, by the love thou bearest to God and thy own self, *this* is under thy protection." The Arab then arises, and taking the thread in his hand follows the clue until it guides him to the tent in which the *harami* is confined. He awakes the owner, and, showing him the thread, declares that he has become the protector of the captive. The captor readily acquiesces. The fetters of the robber are taken off, the thongs which tied his hair are cut with a knife, he is drawn forth from his grave, and, after having been entertained as a newly-arrived guest by the man

whose prisoner he just before was, he is allowed to depart in safety.

As this article has turned much on the habits and feelings of the Arabs in an aggressive attitude, we may subjoin here a few other particulars bearing on the same subject, and derived more exclusively from our own sources of information.

The late Lieutenant-Colonel Robert Taylor, the British resident at Bagdad, allowed the writer of this article to transcribe from his journals an account of an adventure with a party of Arabs on the Tigris, which seemed to us to afford an interesting illustration of their habits and feelings, while at the same time it shows the impression made upon them when, for the first time in their lives, they felt themselves in the presence of a disciplined force. The circumstance occurred in April, 1829, when Colonel (then Major) Taylor was proceeding from Bussorah up the Tigris to Bagdad, in the territory occupied by the Beni Lam Arabs, the parties immediately concerned belonging to the Cheab division of that great tribe:—

"About noon, a little above Seyayud, our leading trackers were attacked by the inhabitants of one of the reed huts on the eastern bank. After a short skirmish they were allowed to pass on; but in the meantime the Arabs assembled in force, and arming themselves with lances, matchlocks, and swords, as best they could, commenced their war-dance, waiting till the trackers of the yacht itself should come up to them. These were now furiously assailed in their turn, and it became absolutely necessary to take measures to prevent the loss of lives; for if one of the Arabs had fallen it would have been the cause of annoyance to every subsequent boat, whose trackers would have been exposed, until the affair had been compounded by a heavy blood-fine.

"A three-pounder was therefore loaded, and fired over their heads from the yacht, with a volley or two of small arms from a party of the guard. A few of the shot from the Arabs themselves came across the yacht, and a spear fell short of it. On the discharge from the vessel they retired and dispersed; and the women began to strike the huts and remove the property belonging to them, an operation which they usually perform in an amazingly short time. The trackers of the yacht in the meantime began to pursue their way; and the Arabs appearing to interpret this as an indication of fear, reassembled and began again their war-song and dance, waiting for the arrival of the boats that remained astern. On perceiving their intentions, the yacht was dropped abreast of them, and its guns pointed against them; and the sepoys, being landed, advanced against the thickest of their mass. The advantages of discipline were then fully manifested in the quick and orderly march of a small body of sepoys against the large force of disorderly and infuriated barbarians which had by this time been drawn together. The Cheabs were sensible of the difference, which must have struck them the more forcibly when they compared the unity of movement and purpose in the little band with the disorderly rabble of Turks and Arab trackers and retainers from the boats which came up in the rear and on the flanks of the sepoys. Without condescending to notice or make any account of the former, although many of them were fiercely armed, they called out to the latter to stop, as they did not wish to pursue the quarrel any further. A halt was then ordered, and an inquiry instituted as to the cause of the original assault. It then appeared that two of our men were in fault in the first instance, and that one of the local Arabs had been severely wounded. The men of the accused class were then made to pass in review before the wounded Arab, but he failed to identify the offenders. One of our men, however, having been caught in the act of theft during the confusion of the quarrel, was summarily punished in the presence of our late assailants, and a suitable present was given to the man who had been wounded.

"This attempt to do justice was attended with the most pleasing effects; harmony and good feeling were immediately restored. The women and property came back, the reed-huts re-appeared, presents were offered us in every direction, and every hospitality in their power to afford was tendered to us; but we pleaded press of time, and pursued our course. The next morning, however, a few of the poor but grateful people followed to the yacht, many miles from their huts, in a frail boat, with a present of milk and sour curds, and wished us a pleasant journey."

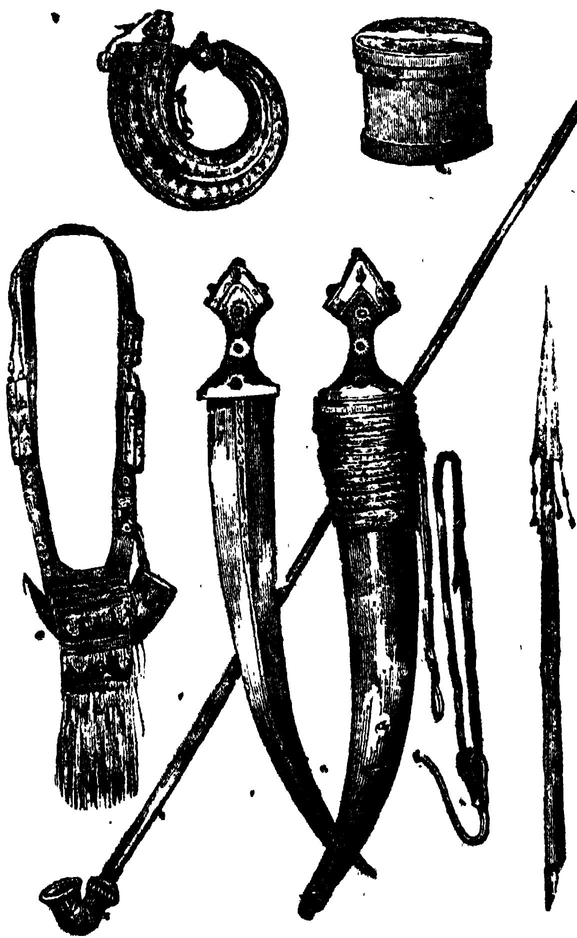
Trifles affect these people strongly. Colonel Taylor illustrates this by a little incident which occurred on the same occasion, when the party were about to leave, after the difference had been composed:—"A gentleman of our party advanced to meet the proffered hand of an Arab, which, in consequence of his right hand being occupied by a gun, he attempted to do with his left. The Arab hesitated in disappointment. The gentleman, feeling that something was wrong, shifted the gun and offered the proper palm. The Arab's eye brightened in an instant, and he ratified the exchange with gratification and respect."

A short notice of the arms of the Bedouins will very suitably conclude this article.

Fire-arms are now rather common among them, and are generally worn slung to the back. They are of very coarse workmanship in general; but wealthy persons have them of considerable elegance, inlaid with ivory and otherwise ornamented. Good pieces are distinguished by particular names, and descend as an entailed property from father to son. The Bedouin is usually expert in the use of it, and takes a surer aim than would be readily thought possible with so clumsy a weapon. The most common and characteristic arms of the Arabs are their lances. They are of two sorts, one of wood, and the other a strong reed with many joints. The latter are preferred, as being the lightest. This weapon has usually a point of iron or steel at each end, that at the bottom being chiefly used to stick the lance in the ground when not in use. The proper blade is never less than a foot long, and is variously formed in different parts. This weapon is often without any ornament, but sometimes the handle is decorated with small nails and rings, and there are often one or two balls or tufts of ostrich feathers fixed at the head below the blade. It is usually rather more than ten feet long; but there is another used as a halbert by men on foot, and which differs little from this except in being shorter. Almost every Bedouin wears a sabre on all occasions, even when he goes to sip coffee in a neighbour's tent. The blades are seldom of good quality. Every Bedouin also wears in his girdle the long curved knife or dagger represented in our cut, and which, besides being employed as a weapon, is abundantly in use as a cutting instrument on all common occasions—like the clasp-knife of a sailor. It is worn obliquely before the body, the handle towards the left side, with the point upwards. Clubs or maces between two and three feet long are much in use, both by those on horseback and on foot when not armed with the lance. These formidable weapons are occasionally of iron; but more usually of wood loaded with iron at the end, and sometimes wholly of heavy wood, or only studded with iron spikes at the head. Shepherds in attending flocks at a distance from the camps usually prefer the shorter lance, and also use a sling, which they employ with much dexterity in throwing stones as large as a man's fist. As instruments of defence they have shields, generally round, and from a foot to eighteen inches in diameter. They

are commonly either of metal, hard wood, or from the hide of the buffalo, wild ox, or hippopotamus. They have generally a point in the centre, and are frequently carved and embossed. Those of wood or metal are generally covered with leather. Coats of mail are still partially used. One sort covers the whole body like a gown, from the elbows over the shoulders down to the knees; the other covers the body only to the waist, the arms, from the elbows downwards, being covered with two pieces of steel, fitting into each other, with iron fingers. This equipment is completed by an iron cap, which is rarely if ever decorated with feathers. This defensive armour is only used in regular warfare, and then to no great extent.

Our miscellaneous wood-cut represents the spear; the common dagger, in and also out of its sheath; the head of a lance; the case for cartridges, which is worn suspended across the breast, and to which is attached a small horn for priming; a larger powder-horn; a common tobacco-pipe; and the wooden box in which coffee is carried.



[Arms, &c., of the Bedouin Arabs.]

MECHANICS' INSTITUTES.

Advantages of Instruction in Arts applicable to Manufactures.

[Concluded from No. [illegible]]

Some of our artisans are engaged in occupations in which a knowledge of botany and perspective is desirable. Mr. Crabb, of Shoe-lane, Fleet-street, a manufacturer of fancy papers for rooms, confesses the great superiority of the French papers, which afford proof of the designer having carefully studied and become familiar with the rules of perspective. In accuracy of outline, and for spirit and truth in the figures, the productions of the French artist are much beyond what would be accomplished for the same purpose in this country. But the talent of the artist would be nearly thrown away if he were not seconded by the taste and intelligence of the workman. Mr. Crabb says,—"In the designs for a French landscape paper, the aërial perspective is usually beautifully attended to in the printing; and unless the journeyman had the subject familiar in his mind, he could not execute the work with the freedom with which it is evidently done. For instance, I expect that this colour, which here represents a cloud of dust, is put on in a body with a brush, and then softened and made to assume its present form with a sponge. This is the journeyman's own act, and he must have been instructed how to convey the idea, or he could not do it, especially in the distant foliage, where the same plan is pursued with beautiful effect." The English room-papers frequently exhibit an ignorance of botany: according to Mr. Crabb, the leaves are often not those of the flower, which is an inaccuracy he never meets with in the French papers. The colours are arranged upon some fixed principle by the French artisan, while in this country, not being sufficiently instructed, the workman labours more at random until he obtains the effect he wishes, and this may be as often wrong as right.

French artisans are also generally better acquainted with anatomical proportions than the same class in England. The former frequently make their own designs and models, and if not sufficiently instructed to do that, they are at all events enabled to finish works executed from the models of others with superior accuracy, while in England they would be spoiled by an injudicious finishing of the muscles, draperies, &c. The French workman is enabled to do these things, because the public institutions open to him better sources of instruction than the English workman has access to.

We find in the 'Evidence' some striking proofs of the advantages which an artisan may obtain by cultivating an acquaintance with the superior branches of knowledge or art connected with his occupation. Mr. Harrison, an eminent silk-manufacturer, said to the Committee on Arts and Manufactures:—"We would willingly, at the present time, engage a man at a handsome salary, conversant with the principle of weaving, as a designer, and also to put the pattern upon paper." Mr. Smith, of Sheffield, a partner in a house which expends about 1500*l*. a-year in models for stove-grates and fenders, would not hesitate to spend 200*l*. or 300*l*. in a model for a grate if the pattern were protected. An individual who is a partner in the same firm, owes his introduction entirely to his ability as a designer. Messrs. Rundell and Bridge employed a gentleman to design for them to whom they paid a salary of 500*l*. a-year, and supplied him with a house to live in; and he was allowed besides to dedicate a portion of his time to his art for his own interest. In France it is invariably the case that when a boy has acquired a certain ability in the arts of design, and has shown taste and genius, he is eagerly sought for by the leading houses; and when he is of good moral conduct, he is commonly fortunate enough to be taken as a partner in the house. In the French silk-trade, the manufacturer who produces the most elegant patterns for the season attracts the largest number of wholesale purchasers; and hence talent is sought after with the utmost avidity, and, when discovered, warmly encouraged and rewarded. But even a slighter acquaintance with the higher principles of a workman's daily operations are not to be disregarded. Mr. C. H. Smith, a sculptor of architectural ornaments, stated to the Committee, that he always found those workmen who could draw, if ever so little, were more useful than those who were totally unable to use a pencil; and he related the following cir-

cumstance in proof of this:—"I recently (he said) sent my foreman into Yorkshire with work; on his arrival, he found difficulties arose which he had not (nor had I) anticipated; but by letter to me, illustrated by his sketches, he explained all that I could wish for." Of course, this individual was of much more value to his employer, and consequently received higher wages, than a man whose ignorance of drawing would have rendered him incompetent to proceed amid the difficulties which unexpectedly surrounded him. In this same business of sculptor of architectural ornaments, the departments which are purely mechanical, and depend upon accuracy rather than taste, are filled by ingenious common workmen, whose wages are higher than those of an unskilled labourer, from whom nothing more is required than the mere exertion of physical strength; but when men are employed on work nearly approaching to the fine arts, which requires more study and higher mental qualifications, of course the scale of remuneration is still more elevated.

At this moment the 'Conservatoire des Arts et Métiers' (the Mechanics' Institute of Paris) is being re-organized; and the necessity of our doing something to provide the means of instruction for our artisans in optics, chemistry, botany, drawing, &c., is fully demonstrated. It is quite evident also that great advantages and inducements are held out, even under present circumstances, to individuals who are wise enough to acquire proficiency in the higher departments of their respective professions. In default of public institutions on a sufficiently extensive scale to develop the present necessities for instruction in the arts and sciences, we most earnestly advise every one to whom it is likely to be of advantage to resort, in a spirit of determined improvement, to the Mechanics' Institutions. There the young artisan can acquire many of the elements of useful knowledge, and become acquainted with those principles of science which may advance the reputation of his art and greatly promote his own prosperity.

We shall conclude this notice by giving, from the evidence of Charles Toplis, Esq., a vice-president of the London Mechanics' Institute, and one of the directors of the Museum of National Manufactures, 1, Remarks on the general question of instructing artisans and manufacturers in the arts of design; and, 2, Some practical directions for applying this knowledge to manufactures:—

Q. by the Committee.—"How far do you consider a knowledge of the arts of design to be important to artisans and manufacturers?"—"Whilst a knowledge of the principles of mechanical science is indispensably necessary to the successful execution of all works of construction, and consequently to the engineer, the builder, the carpenter and the mechanist, it is an essential part of his education to acquire it; chemical science is not less imperatively called for by equally extensive classes of operative men in innumerable departments of manufacturing industry; but to a very large proportion of the individuals engaged in both branches, some practical skill in the arts of design is either absolutely needful, or would be eminently useful. All works of construction require to be preceded by a design on paper, or a proportional delineation, which is often to be done by the workman himself. Workmen in these branches must therefore be necessarily trained to the accurate use of drawing instruments, and their operations are frequently much assisted when they can express their designs by sketches made by the unguided hand. Those workmen whose province it is to shape and give form to materials, are greatly aided in their operations when they can delineate the contours of the forms they wish to impart, or can model them in a yielding matter; and their taste is necessarily improved in studying the selected forms set before them for imitation during the course of their instruction in drawing or modelling, from which improvement their works must derive additional grace and effect. Many important branches of manufacture call for careful cultivation of the eye, for the purpose of arranging, assorting, and contrasting colours, which, as an affair of taste, calls for some portion of a painter's education. Other branches subservient to the luxuries, and what may indeed be regarded as the imperative wants, of a highly civilized society, demand superior skill in the delineation of landscape, and even in the drawing and modelling of the human form, and of other complex figures. As any of these operations are executed with a skill and tact to satisfy the chastened eye of the professed artist they give value and importance to the work which has received their impress, and enhance the gratification of the cultivated possessor of the commodity. Whatever partakes of the nature of ornament will only be appreciated in a refined age, as it is characterized by grace and elegance of design and by delicacy and precision of execution. But the accomplishment of these requisites implies long and careful training in the artist, to whom, during his unprofitable noviciate, it is essential that all facilities should be afforded at their minimum of expense. When we consider the immense number of workmen and superintendents in this country to whose successful operations the principles of science are essential; of skilled labourers, artisans, and handicraftsmen, to whom the arts of design and the elements of taste in the cultivated age of an opulent society are of eminent, to many of vital, importance; when we reflect that from the knowledge and skill, and ingenuity, and taste, and labour of all these men combined, the country draws all which supplies the wants, conduces to the comforts, or ministers to the luxuries of society, it would seem to be an object of no mean estimation to an enlightened legislature to provide for the careful and adequate training, as far as public institutions can contribute, of every class of skilled labourers. The formation of schools of elementary science, of academies for the arts of design, and of museums for the collection of models of construction, of specimens of skilful workmanship, and of examples of tasteful design and graceful form, cannot fail to advance, in a conspicuous degree, both the fine and useful arts of the country. Our national greatness rests on the skilled industry of our people; it must be a part of sound domestic policy to foster, by every means within our reach, the talent which gives currency and importance to our indigenous products, and draws within the vortex of British manufacture the raw material of other climes, to be spread again over the world, enhanced in value by the labour, skill, and taste of British artisans."

Q.—"Suppose that you have a master to teach design, do you not think that it would be also necessary to have some person who should stand intermediately between the design and the fabric to which the design is to be applied, and show how the one is to be adapted to the other?"—"Yes, certainly; I conceive that the elementary schools of designs would be of the same value for all; after they had made a certain progress in the schools, it would then be necessary to draught them out into the particular department of manufacture which their inclination or their talent might lead them to; that then they would require express instruction in those particular branches; for instance, in the porcelain manufacture it is requisite that a painter there should be able to paint landscape and other natural objects, perhaps to compose pictures, but at all events he should be able to copy a landscape or other representation accurately; but then the management of the colours and other materials used in the porcelain painting requires express teaching, and that knowledge he must

derive from some master appointed for the purpose; he would in fact have to undergo an apprenticeship in that particular art; but his previous preparation in the school of design would qualify him to attain the particular technical application of his art in a comparatively short time, so as to make his labours become profitable both to himself and his employers in that particular department.

"You laid down the principle, that having instructed the artisan to a certain extent in the general principles of design, you would then allow him to confine his attention to the particular branch of manufacture to which the design is applicable?"—"Yes."

"Have you ever turned your attention to the best mode of carrying that principle into effect?"—"Were I to set about it, I should take a man perfectly conversant with that branch of the business, and give him the pupils, and say, 'Now you take those pupils, and instruct them in all that is necessary for this particular department;' in the instance of porcelain he would say to him, 'You have been accustomed to use such and such colours, which are at once obvious to your eye; you know the colours you are going to apply to your picture by their appearance on the palette, and you know they will have the same effect to the eye which they have upon the palette: here you are going to encounter a totally different principle; you are taking a colour which is totally different in appearance to what it will be when it has been subjected to the process of burning.' This is perfectly new to the student; he then has to be instructed in and shown what are these changes that take place in the colours in the operation of burning. This is a preliminary training which he must necessarily go through. Then there is the effect of different fluxes upon the colours, the effect of the different combinations of colours, the quantity of flux that is necessary for one colour and is necessary for another that are to be exposed to the same degree of heat; the colours that require different degrees of heat; and all these technical peculiarities must be taught to the general student of design. He is only qualified before he comes there by training of the eye and the hand; his eye can measure forms and trace their contours, his hand can make the copy upon a plane surface of those forms.

"The instance you have given in the case of porcelain is an exemplification of the principle which would generally apply to the adoption of design in manufactures, is it?"—"Yes; for in the iron foundry, for instance, the student who had been taught to draw ornaments upon a flat surface, appropriate to that kind of material, would have to be taught, when he comes to apply himself to this particular branch, that all kinds of forms would not be admissible; they would not deliver from the sand; he must have a peculiar knowledge of what will and what will not be manageable in the hands of the moulder, and then he comes to a peculiar technical training. That is another instance, and I fancy it will be found generally to prevail all through."

MUNICIPAL CORPORATIONS.

The object of the present paper is to give some account of the Origin and Progress of Municipal Corporations, which, in consequence of the recent changes in their constitution, are fitted to become again, as they have been in former times, amongst the most useful institutions of our country.

The provincial cities, under the Roman Empire, enjoyed a municipal magistracy, and the right of internal regulation*. It is not certain whether these privileges were swept away amid the ruin and desolation which attended the fall of the overgrown fabric of Roman power. Sismondi asserts that the Franks respected the municipal privileges which they found in the towns of the Roman provinces; but Mr. Hallam doubts the fact of their preservation; although, as he says,—"It would not have been repugnant perhaps to the spirit of the Frank and Gothic conquerors to have left them in possession of these privileges." At all events there can be little doubt but that these ancient institutions were wholly swept away in the total dislocation which immediately followed the dismemberment of the empire founded by the genius of Charlemagne in the eighth century. The inhabitants of the towns had, for some time afterwards, little to record but their sufferings. Victims of every invasion,—pillaged in every war, whether domestic or foreign,—they were reduced to the most deplorable condition. When the Saracens, the Hungarians, or the Normans, had burned any great town, a few unhappy beings assembled afresh among the ruins; but they existed in poverty and misery, without any local administration. In this age of social dissolution, the *curiæ*, or senates of the cities, and the assemblies of the burgesses had totally disappeared. The inhabitants were neither in a condition to claim or exercise their civil liberties. Education of some kind, property, leisure, and the courage which is sustained by the love of independence, were scarcely known; and it is not to be wondered at that men who were oppressed by want and tyranny, and never safe from the hostile grasp of foreign and domestic robbers, should cease to care about the privileges which are estimable only in a happier state of society. There was not at this period a central authority sufficiently strong to protect the weak; and until this blessing was obtained, there was little hope of restoring the prosperity of the community by any local regulations enforced by subordinate authorities.

We turn from the spectacle which these times present to the commencement of a happier period. The reconstruction of society began. The dukes, counts, and prelates who divided the vast empire of Charlemagne among them, had built themselves strongholds, in which, along with the exercise of despotic sway over their followers, courts of law were established. A wretched population crowded for protection around these depositaries of power. Industry and ingenuity were slightly encouraged. The great feudal lords endeavoured to obtain for their own especial service a set of the same "good artizans" as Charlemagne a hundred and fifty years before had commanded his judges to provide for each of his castles or royal abodes, viz., "workmen in iron, gold, and silver; stone-cutters, turners, carpenters, armourers, engravers, washers; brewers skilled in making mead, cider, and perry, and all other liquors fit to be drunk; bakers, who likewise have the art of preparing millet for our use; net-makers, able to make every thing appertaining to the chase, and all other tradesmen whom it would be too long to enumerate." These artisans were the absolute property of their lords, but their condition was necessarily more tolerable than that of the cultivators of the soil, as an artisan whose peculiar skill gratified the taste and vanity of his superior would naturally be treated with more consideration than the rude peasant whose services were of no more value than those of his fellows. The artisans gradually assumed the character of a compact body, and thus perhaps enjoyed several immunities by usage before the date of those charters by which their privileges were sanctioned*.

Here it is desirable to glance at the constitution of society at this time, and the movements which were the consequences of its peculiar organization. The social power was wielded by a set of men whose authority was absolute over their dependents, but was

* Hallam.

* Hallam.

ill defined as regarded each other. As each had the right of calling his followers into the field in support of his pretensions, a perpetual series of contests was maintained. This was before the settlement of an independent central power; but its establishment was a necessary consequence of the principles on which this private warfare was carried on. The contest could only end in the recognition of the claims of the strongest party. At first the sovereign power was weak; it had few pretensions, because it was still in the presence of powerful opponents. This was a period favourable to the development of personal liberty.

Robertson imputes the establishment of chartered towns in France to the necessity which the sovereign felt himself under of counterbalancing the power of the great vassals who overawed the country; and that, as a consequence, privileges were conferred upon the towns situated within the royal domain. This is the view which Adam Smith adopts. "The lords (he says) despised the burghers. The burghers naturally hated and feared the lords. The king hated and feared them too; but though he might despise, he had no reason either to hate or fear the burghers. Mutual interest, therefore, disposed them to support the king, and the king to support them against the lords. They were the enemies of his enemies, and it was his interest to render them as secure and independent of those enemies as he could. By granting them magistrates of their own, the privilege of making bye-laws for their own government, that of building walls for their own defence, and that of reducing all their inhabitants under a sort of military discipline, he gave them all the means of security and independency of the barons which it was in his power to bestow." In support of this view it is remarked that those princes who were usually on the worst terms with their barons were most liberal in their concessions to the towns; as in the case of King John of England, and the Princes of the House of Suabia in Germany.

Mr. Hallam deems it more natural to impute the enfranchisement and incorporation of towns, both as respects the king and the barons to their pecuniary necessities: "We could hardly doubt (he says) that their concessions were sold at the highest price, even if the existing charters did not exhibit the fullest proof of it."

It is probable that the causes which led to the enfranchisement of the towns were modified according to circumstances. When the sovereign was strong, and the vassals of the crown weak, it would be very natural to change the terms of enfranchisement into a pecuniary demand instead of military service.

The abbot of St. Nogent relates that, owing to there being no adequate police at Laon, acts of robbery and rapine were continually occurring. The clergy and principal inhabitants resolved in consequence to enfranchise the populace, and bind them in regulations calculated to promote the general security. The bishop was absent at the time, and, on his return, opposed this new institution; but, for money, he ultimately took the same oath as the other inhabitants, and the king confirmed the agreement. The bishop afterwards annulled the charter, upon which he was murdered by the inhabitants, who were driven to the act by seeing themselves again reduced to a state of servitude. This occurred A.D. 112[illegible]*.

In other cases oppression created resistance, and the oppressed conquered a portion of freedom. We frequently find that the commons, oppressed by the exactions of their superiors, had recourse to arms, and united themselves in a general league, confirmed by oath. One of these associations took place at Mans as early as 1067, and though it did not produce any charter of privileges, is a proof of the spirit to which ultimately the superior classes were obliged to submit. Several charters bear witness that this spirit of resistance was justified by oppression. Louis VII. (1137—1180) frequently declares the tyranny exercised over the towns to be his motive for enfranchising them. M. Guizot says, "The emancipation of the commons in the eleventh century was the fruit of a real insurrection,—of a real war,—a war declared by the population of the towns against their lords. The first fact which we always meet with in such histories, is the rising of the townsmen, who arm themselves with whatever falls in their way; the objects of the war are always the expulsion of the ministers of the feudal lord who come to exercise some extortion, and an attack upon the castle. If the insurrection fails, what does the conqueror immediately do? He orders the destruction of the fortifications raised by the citizens, not only around their town, but around each house."

In the twelfth century almost every town had obtained a charter of privileges. These charters prove from what a low degree of freedom the inhabitants emerged. It was considered at that period as a great right to be able to dispose of daughters in marriage without the consent of the lord;—to leave property to children instead of the lord. Other rights of the commonest kind were regarded as valuable privileges; and such in reality they were, as they formed the ground-work of that increased liberty and civilization which are enjoyed in the present day. The newly-enfranchised towns were made capable of possessing common property, and were allowed the use of a common seal in token of the legitimacy of their rights. The occasions for demanding taxes of them were limited as well as the sum to be contributed; and these taxes were levied by officers whom they had themselves elected. The duty of taking up arms on their lord's behalf was greatly abridged; and the towns being exempted from the jurisdiction of the royal and territorial judges, the laws and customs on which their welfare depended were administered and enforced by magistrates, who were either entirely of their own selection, or with some comparatively unimportant participation which the lord claimed in their choice. Their charters enabled them to form special rules, or bye-laws, for the management of their own affairs.

It is worth while to reflect for a moment how greatly the progress of civilization has been indebted to commerce and the useful arts. They were the great influences which contributed, perhaps more than any other cause, to the overthrow of feudal power. When commerce and manufactures existed in the rudest state, and exercised little influence on life, the feudal lord distributed the produce of his lands to a crowd of retainers: he had no other mode of dispensing it. But during the contests for supremacy which took place among the lords, some few privileges granted to the towns had their share in stimulating the ingenuity and industry of their inhabitants. The feudal baron, instead of expending his produce on so many idlers and military retainers, imbibed a taste for the comforts which commerce and art were gradually introducing. At the same time the individuality of the feudal system was breaking up, and the growing influence of the sovereign occasionally attracted the lords within the comparatively splendid sphere of a court. The contest for supremacy was at length given up, and the lords began to vie with each other in their own personal magnificence and that of their retinue, and in their style of living. But their incomes, when thus diverted from their original mode of distribution, were directed into channels far better calculated to lead to the rapid development of civilization. The division of employ-

* Hallam.

as at Newcastle-upon-Tyne, Carlisle, and Scarborough, the forms of the municipal government were defined by an express composition between the magistracy and the people. It is probable that the powers of the government, in all ordinary cases, were exercised by the superior magistracy, but that, in extraordinary emergencies, the whole body of burgesses was called upon to sanction the measures which interested the community. The difficulty of conducting business in such an assembly seems to have suggested the expedient of appointing a species of committee out of the larger body, which acted in conjunction with the burgesses, and which was dissolved when the business was concluded. These committees afterwards became permanent."

After the Conquest the burgesses of towns lived under the superiority of the king, or of one of the barons. They paid annual rents, which were not heavy, but they were besides liable to tallages (imposts) at the discretion of their lords, though two centuries afterwards the permission of the king was necessary before the towns could be laid under contribution. During the whole of this period they had been increasing in wealth and importance.

The next step towards placing the towns on a footing calculated to enlarge their means of prosperity was that of converting the individual tributes of the burgesses into a perpetual rent from the whole borough. From being the legal proprietor, the king or the feudal lord by this change divested himself of the right of taxing the towns at his pleasure. That power was still sometimes exercised, but the right to contest its application formed an important element in the gradual establishment of the liberties of the people. In proportion as it became doubtful whether or not the towns would submit to be taxed, privileges and immunities were conceded to them. "From the time of William Rufus there was no reign in which charters were not granted to different towns of exemption from tolls on rivers and at markets, those lighter manacles of feudal tyranny; or of commercial franchises; or of immunity from the ordinary jurisdiction; or, lastly, of internal self-regulation*."

From having been taxed at the discretion of the crown, and also of the barons who possessed the rights of proprietorship within their boundaries, the consent of the towns became necessary to the imposition of a tax; and hence the origin of their sending representatives to Parliament. Mr. Hallam confesses that it is a question of great obscurity who were the persons whose concurrence was usually required in the election of a burgess to send to Parliament. "It appears" he says†, "to have been the common practice for a very few of the principal members of the corporation to make the election in the county court, and their names as actual electors are generally returned upon the writ by the sheriff. But we cannot surely be warranted by this to infer that they acted in any other capacity than as deputies of the whole body, and indeed it is frequently expressed that they chose such and such persons by the assent of the community; by which word, in an ancient corporate borough, it seems natural to understand the freemen participating in its general franchises, rather than the ruling body, which in many instances at present and always perhaps in the earliest age of corporations, derived its authority by delegation from the rest. The consent, however, of the inferior freemen we may easily believe to have been merely nominal; and from being nominal it would in many places come by degrees not to be required at all—the Corporation, specially so denominated, or municipal government, acquiring by length of usage an exclusive privilege in election of members of Parliament, as they did in local administration."

* Hallam. † Vol. iii. p. 174.

Previous to this, the municipal magistracy had been invested with the powers of justices of the peace, and their civil and criminal jurisdiction had been enlarged. Between the reigns of Richard II. and Henry VI. members were admitted into the municipal body in many places upon a mere personal right, without any qualification either of residence or of property. The charters between the reign of Henry VIII. and the Revolution were framed for the purpose of taking away power from the community, and rendering the governing class independent of the main body of the burgesses. The councils were made self-elective. The honorary office of high steward was created in many boroughs, which brought them within the influence either of the crown or the aristocracy. Some charters contained clauses limiting the right of electing members of Parliament to the select bodies which they created. During the reigns of Charles II. and James II. many corporate towns were induced to surrender their charters, and to accept new ones, which enabled the crown to remove or nominate their principal officers. The charters granted after the Revolution were no better than those given in the worst period of the history of municipal boroughs*.

It is unnecessary for us to carry this brief and imperfect sketch of the history of Municipal Corporations beyond this period. They are about to undergo a great change; and it may therefore be desirable to show what was the general condition of these bodies immediately previous to the Act for their reform passed in the last session of Parliament.

In July, 1833, Commissioners were appointed to inquire into the existing state of Municipal Institutions; and early in the session of 1835 they made a Report to the Legislature. We can only very briefly advert to the interesting matter which this document contains.

It was found that there were 246 Municipal Corporations in England and Wales, and 237 of them having a population of 2,028,513, formed the subjects of an inquiry. In twenty-five places the number of corporators was not ascertained, in the others they amounted to 88,509. The governing body was found to be *self-elected* in 186 boroughs. In 131 boroughs this body elected the mayor, in 136 the recorder, and in 135 the town-clerk. In 112 boroughs the Corporation possessed exclusive jurisdiction, and in forty-two boroughs its jurisdiction was not exclusive. The number of corporators exercising magisterial functions was 1086 in 188 boroughs. Seventeen boroughs possessed no income whatever, and in eight the amount could not be ascertained. The total income of the 212 remaining was found to be 366,948*l*. 17*s*.; their expenditure 377,027*l*. 15*s*. The debts of 103 boroughs amounted to 1,855,371*l*. 3*s*. 7*d*., besides annuities to the amount of 4,468*l*. 1*s*. 3*d*. The accounts were made public in only twenty-eight boroughs. The Commissioners report that it had become customary not to rely on the Municipal Corporations for exercising the powers of good municipal government, distinct trusts having been appointed for this purpose. The corporations had therefore only the nominal government of the town in their hands in many cases. The privileges constitutionally belonging to a large and indefinite body were retained in the hands of a small and select one, and the freemen had often ceased to consider themselves as forming any part of the Corporation, which term was popularly applied only to the ruling body. Local privileges had been conferred on non-resident freemen, to the exclusion of those to whom they rightfully belonged. The poverty of the freemen, in general, rendered them peculiarly subservient to party purposes.

The Commissioners concluded their Report by re-

* 'Report from Commissioners on Municipal Corporations in England and Wales.

presenting the Municipal Corporations in England and Wales as even when most rightfully administered, "inadequate to the wants of the present state of society."

The measure which has been applied to correct the abuses pointed out by the Commissioners on Corporations re-invests the inhabitants with the privileges which had gradually been taken from them, making those who are the effective heads of the community members of the municipal magistracy and the municipal councils, and throwing open the rights of a burgess to every male inhabitant of proper age, resident within seven miles, who occupies in the borough a tenement which has been rated for three years to the relief of the poor. The burgesses elect the councillors, who compose the municipal government. Exclusive rights of trading are abolished, and the freedom of a borough can no longer be obtained by gift or purchase. (An abstract of the Act will be found in the 'Companion to the Almanac' for 1836.)

The history of the Chichester Guildhall, a wood-cut of which is given in the previous number, furnishes an illustration of the great changes which have taken place in England since the Conquest. Hugh de Montgomery, whom the Conqueror created Earl of Chichester and Arundel, built the castle to protect himself and his possessions. In 1233, although the dominion of the church had been shaken in the contest between Becket and Henry II., it still possessed its devoted adherents, and the fourth Earl of Arundel in this year gave the castle with its appurtenances to the Grey Friars; in whose possession it remained as a convent until the age was prepared for another great change—the dissolution of monastic establishments, and a general alteration of ecclesiastical institutions. In the thirty-second year of his reign (1541) Henry VIII. granted the castle to the mayor and citizens, by whom it was let on lease, except the Grey Friars' chapel, which [illegible]y made use of for their Guildhall. It is the only part now remaining.

A slight notice of the municipal institutions of Chichester will not perhaps be out of place in this account. The charter upon which the Corporation has acted up to the present time, was granted by James II. in the first year of his reign. It gave the king in privy council power to remove the mayor, justices, aldermen, common councilmen, and all other officers. There were only fifty-seven freemen belonging to the Corporation at the period of the recent inquiry into these institutions; and the Commissioners reported that "the considerations which have influenced the admission into the Chichester Corporation have been founded less on political opinions than on the wish to maintain the interest of a partcular family in the borough." Only nine of the freemen were resident, and they had no voice in the meetings of the corporate body; the remainder were persons of rank and eminence unconnected with the town. The Municipal Reform Bill will extend municipal rights to several hundred householders.

The Liverpool Town Hall stands in pointed contrast to the old halls of Chichester and Oxford. It is a creation of the commercial wealth of modern times. So recently as the year 1700 the population of Liverpool was only 5714; and, to use the language of an eloquent speaker*,—"this quondam village, which is now fit to be a proud capital for any empire in the world, has started up like an enchanted palace, even in the memory of living men." It was fitting that the municipal body of such a town, even though a self-elected corporation, should possess an edifice for its various purposes corresponding in some degree to the extent of the municipal resources. Owing however, in part to the nature of its constitution, a large portion of the income of the corporation (the town-dues) was obtained in a manner which operated with great hardship on a portion of the community. They amounted to nearly 50,000l. a-year. One mercantile firm in Liverpool was called upon to pay above 1000l. in a single year, 421l. of which was on exported goods. The freemen were exempt from these charges; so that under such grievous disadvantages, it was often impossible for non-freemen to enter into competition with their enfranchised townsmen. In 1831, in consequence of the gross corruption of the freemen, the House of Commons suspended the writ for the election of a member for Liverpool. The Reform Bill gave the inhabitants at large (170,000) a voice in the election of a parliamentary representative, and the Bill for Municipal Reform has placed in their hands the means of exercising some control in the management of their own affairs, and has abolished the former odious and unjust immunities.

The Town Hall was originally built in 1749, but the interior having been destroyed by fire in 1795, it was restored and improved at an expense of about 110,000l. The north part of the building was taken down; and the dome which at present surmounts the edifice is much lighter than the one destroyed. A colossal figure of Britannia in a sitting posture crowns the exterior. The entire height from the pavement to the centre of the dome is 114 feet; and from the grand staircase it presents a fine *coup-d'œil*. The basement contains a kitchen and other offices; the ground-story, (which was intended for an Exchange, but was never used for that purpose) committee-rooms, rooms for the magistrates and juries, a sessions-room, offices for the town-clerk and other officers; and the principal story contains a a suite of rooms communicating with each other, viz., a saloon, 30 feet by 26; west drawing-room, 33 feet by 26; east drawing-room, 32 feet by 26; a ball-room, 90 feet by 42; a second ball-room, 66 feet by 29; and a refreshment-room, 50 feet by 30. An interesting view of the town and the course of the river, with the Irish Channel in the distance, may be seen from the exterior circular gallery.

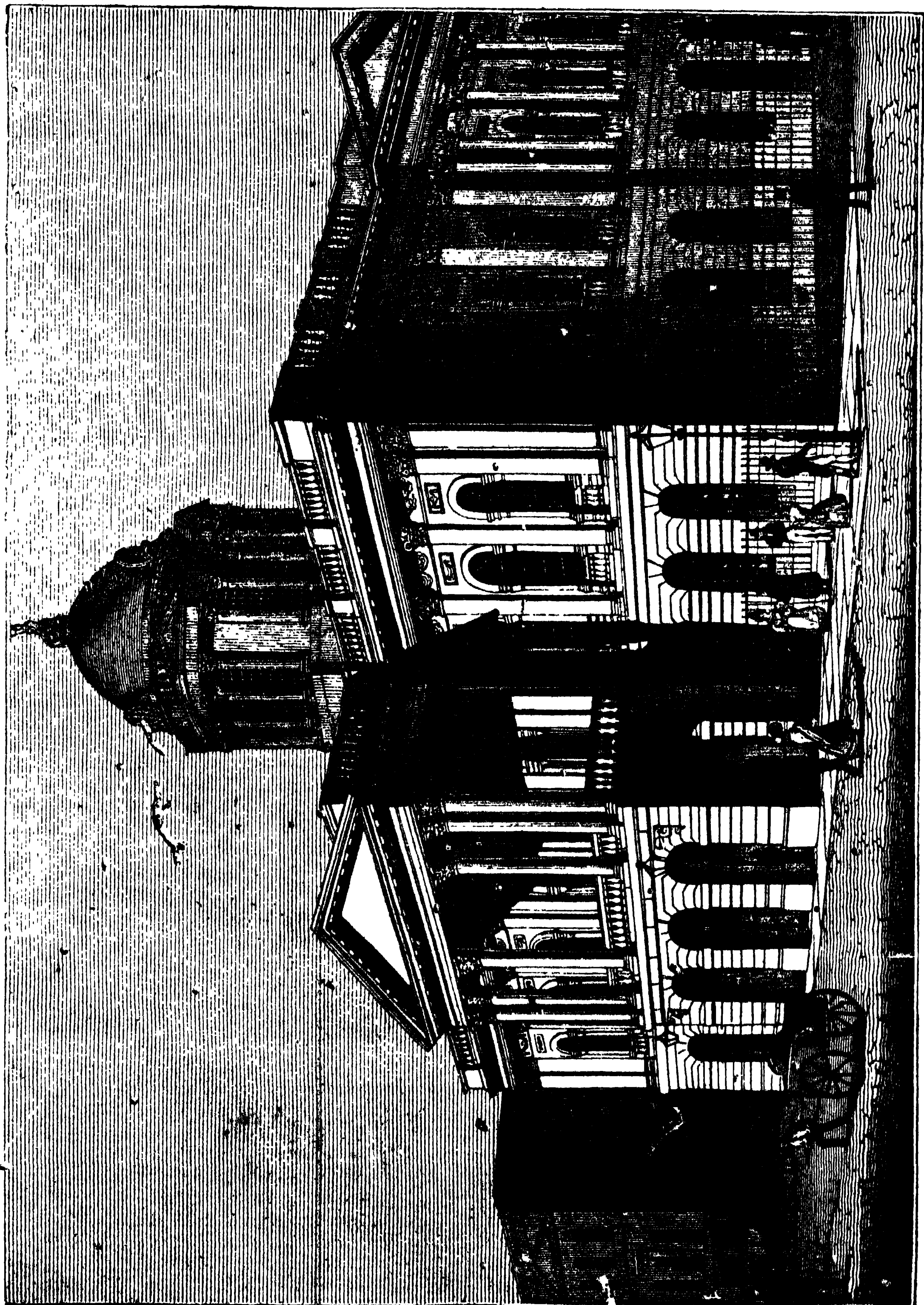
The municipal business at Oxford is transacted in a spacious building erected in 1754. Our cut, however, represents the old Town Hall, which was burnt down at Christmas, 1834.

The municipal institutions of the city of Oxford are described by the Commissioners, who visited it during the inquiry instituted in 1833. The form of election to the office of mayor was quite peculiar to Oxford. At a special meeting of the Council Chamber, two persons were nominated to the office, and the members of the council gave their votes at the time. The result was then declared to the freemen assembled, after which the council left their chamber, and with the freemen elected one of the two individuals who had been previously so nominated and announced. The votes of the council were computed in both cases, which consequently gave them a double vote. This was technically termed "an election by scrutiny in the house, and by the commons." But as the right of nomination belonged exclusively to the members of the Council Chamber, it was clear that if two candidates were presented equally objectionable to the freemen, they had not the power of rejecting either; one of them was necessarily forced upon them by the self-elected ruling body. These elections were besides conducted in a manner calculated to produce a general depravation in the morals and habits of the lower class of freemen.

In thus taking at hazard three places possessing corporate bodies, it is seen that the constitution of each of them was extremely vicious and defective. Many corporations from the nature of their constitution were, doubtless, less open to evil influences; but the examples we have given are not solitary ones. It is not our intention to indulge in speculations on the ultimate good effects to be expected from the recent measure, which has placed the Municipal Corporations of England in

* Erskine.

harmony with the increased intelligence of the communities in which they are established. Of one thing we feel assured, that a great stimulus will be given to the progress of improvement. On this point we quote the testimony of history, under something like similar circumstances. Professor Heeren, speaking of the most brilliant period of Grecian civilization, says:—"A participation in state affairs caused men to feel the want of intellectual discipline; they wished to learn how to think and speak;" and he adds—"What a crowd of political ideas must have been promulgated among a people whose settlements, more than a hundred in number, had each its own peculiar form of government!" Sismondi relates that when the Italian cities emerged into independence,—"every one endeavoured to develop the powers which he felt within him, because each was conscious that the more his mind opened the greater was his enjoyment. Every one directed his powers to a useful and practical purpose, because each felt himself placed in a state of society in which he might attain some influence, either for his own benefit or that of his fellow-creatures."



[Town-Hall, Liverpool.]

END OF VOLUME THE FOURTH.

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